

# SEQUENCE LISTING

<110> Probst, Peter  
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<120> COMPOSITIONS AND METHODS FOR TREATMENT AND  
DIAGNOSIS OF CHLAMYDIAL INFECTION

<130> 210121.469C4

<140> US

<141> 1999-12-03

<160> 303

<170> FastSEQ for Windows Version 3.0/4.0

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<211> 481

<212> DNA

<213> Chlamydia trachomatis

<400> 1

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caaaataaga actctgcttt catgcagcct gtgaacgtat ccgctgattt agctgccatc	180
gttggtgcag gacctatgcc tcgcacagag atcattaaga aaatgtggga ttacattaag	240
gagaatagtc ttcaagatcc tacaaacaaa cgtaatatca atcccgatga taaattggct	300
aaagtttttg gaactgaaaa acctatcgat atgttccaaa tgacaaaaat ggtttctcaa	360
cacatcatta aataaaatag aaattgactc acgtgttctt cgtctttaag atgaggaact	420
agttcattct ttttgttcgt ttttgtgggt attactgtat ctttaacaac tatcttagca	480
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<210> 2

<211> 183

<212> DNA

<213> Chlamydia trachomatis

<400> 2

atcgttggtg caggacctat gcttcgcaca gagatcatta agaaaatgtg ggattacatt	60
aaggagaata gtcttcaaga tcttacaac aaacgtaata tcaatccga tgataaattg	120
gctaaagttt ttggaactga aaaacctatc gatatgttcc aatgacaaa aatggtttct	180
caa	183

<210> 3

<211> 110

<212> DNA

<213> Chlamydia trachomatis

<400> 3

gctgcgacat catgcgagct tgcaaaccaa catggacatc tcaatttcc ccttctaact	60
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cgctctttgg aactaatgct gctaccgagt caatcacaat cacatcgacc

110

<210> 4

<211> 555

<212> DNA

<213> Chlamydia trachomatis

<400> 4

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tagggccagc	tctttctaaa	gagattattg	ctagattgca	gttgaatccc	gaagctagag	180
ctgcagagtt	gactgaggaa	gaggttggtc	gactaaacgc	tcttttacag	tcggattacg	240
ttgttgaagg	ggatttgcg	cgtcgtgtgc	aatctgatat	caaacgtctg	attactatcc	300
atgcttatcg	tgacaaaaga	catagacttt	ctttgcctgt	tcgtggtcag	agaacaaaaa	360
caaattctcg	cacgcgtaag	ggtaaacgta	aaactattgc	aggtaagaag	aaataataat	420
ttttaggaga	gagtgttttg	gttaaaaatc	aagcgcaaaa	aagaggcgta	aaaagaaaac	480
aagtaaaaaa	cattccttcg	ggcggtgtcc	atgttaaggc	tacttttaat	aatacaattg	540
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<210> 5

<211> 86

<212> PRT

<213> Chlamydia trachomatis

<400> 5

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Ala	Asp	Leu	Ala	Ala	Ile	Val	Gly	Ala	Gly	Pro	Met	Pro	Arg	Thr	Glu
		20						25					30		
Ile	Ile	Lys	Lys	Met	Trp	Asp	Tyr	Ile	Lys	Glu	Asn	Ser	Leu	Gln	Asp
		35					40					45			
Pro	Thr	Asn	Lys	Arg	Asn	Ile	Asn	Pro	Asp	Asp	Lys	Leu	Ala	Lys	Val
		50				55					60				
Phe	Gly	Thr	Glu	Lys	Pro	Ile	Asp	Met	Phe	Gln	Met	Thr	Lys	Met	Val
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Ser	Gln	His	Ile	Ile	Lys										
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<210> 6

<211> 61

<212> PRT

<213> Chlamydia trachomatis

<400> 6

Ile	Val	Gly	Ala	Gly	Pro	Met	Pro	Arg	Thr	Glu	Ile	Ile	Lys	Lys	Met
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Trp	Asp	Tyr	Ile	Lys	Glu	Asn	Ser	Leu	Gln	Asp	Pro	Thr	Asn	Lys	Arg
		20						25					30		
Asn	Ile	Asn	Pro	Asp	Asp	Lys	Leu	Ala	Lys	Val	Phe	Gly	Thr	Glu	Lys
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Pro	Ile	Asp	Met	Phe	Gln	Met	Thr	Lys	Met	Val	Ser	Gln			
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<210> 7

<211> 36

<212> PRT

<213> Chlamydia trachomatis

<400> 7

Ala Ala Thr Ser Cys Glu Leu Ala Asn Gln His Gly His Leu Gln Phe  
 1 5 10 15  
 Pro Leu Leu Thr Arg Ser Leu Glu Leu Met Leu Leu Pro Ser Gln Ser  
 20 25 30  
 Gln Ser His Arg  
 35

<210> 8

<211> 18

<212> PRT

<213> Chlamydia trachomatis

<400> 8

Leu Arg His His Ala Ser Leu Gln Thr Asn Met Asp Ile Ser Asn Phe  
 1 5 10 15  
 Pro Phe

<210> 9

<211> 5

<212> PRT

<213> Chlamydia trachomatis

<400> 9

Leu Ala Leu Trp Asn  
 1 5

<210> 10

<211> 11

<212> PRT

<213> Chlamydia trachomatis

<400> 10

Cys Cys Tyr Arg Val Asn His Asn His Ile Asp  
 1 5 10

<210> 11

<211> 36

<212> PRT

<213> Chlamydia trachomatis

<400> 11

Val Asp Val Ile Val Ile Asp Ser Val Ala Ala Leu Val Pro Lys Ser  
 1 5 10 15  
 Glu Leu Glu Gly Glu Ile Gly Asp Val His Val Gly Leu Gln Ala Arg  
 20 25 30  
 Met Met Ser Gln  
 35

<210> 12

<211> 122

&lt;212&gt; PRT

&lt;213&gt; Chlamydia trachomatis

&lt;400&gt; 12

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Met Pro Arg Ile Ile Gly Ile Asp Ile Pro Ala Lys Lys Lys Leu Lys
 1      5      10      15
Ile Ser Leu Thr Tyr Ile Tyr Gly Ile Gly Pro Ala Leu Ser Lys Glu
      20      25      30
Ile Ile Ala Arg Leu Gln Leu Asn Pro Glu Ala Arg Ala Ala Glu Leu
      35      40      45
Thr Glu Glu Glu Val Gly Arg Leu Asn Ala Leu Leu Gln Ser Asp Tyr
      50      55      60
Val Val Glu Gly Asp Leu Arg Arg Arg Val Gln Ser Asp Ile Lys Arg
65      70      75      80
Leu Ile Thr Ile His Ala Tyr Arg Gly Gln Arg His Arg Leu Ser Leu
      85      90      95
Pro Val Arg Gly Gln Arg Thr Lys Thr Asn Ser Arg Thr Arg Lys Gly
      100      105      110
Lys Arg Lys Thr Ile Ala Gly Lys Lys Lys
      115      120

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&lt;210&gt; 13

&lt;211&gt; 20

&lt;212&gt; PRT

&lt;213&gt; Chlamydia trachomatis

&lt;400&gt; 13

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Asp Pro Thr Asn Lys Arg Asn Ile Asn Pro Asp Asp Lys Leu Ala Lys
 1      5      10      15
Val Phe Gly Thr
      20

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&lt;210&gt; 14

&lt;211&gt; 20

&lt;212&gt; PRT

&lt;213&gt; Chlamydia trachomatis

&lt;400&gt; 14

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Asp Asp Lys Leu Ala Lys Val Phe Gly Thr Glu Lys Pro Ile Asp Met
 1      5      10      15
Phe Gln Met Thr
      20

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&lt;210&gt; 15

&lt;211&gt; 161

&lt;212&gt; DNA

&lt;213&gt; Chlamydia trachomatis

&lt;400&gt; 15

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atctttgtgt gtctcataag cgcagagcgg ctgcggctgt ctgtagcttc atcggaggaa      60
ttacctacct cgcgacattc ggagctatcc gtccgattct gtttgtcaac aaaatgctgg      120
cgcaaccgtt tctttcttcc caaactaaag caaatatggg a      161

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&lt;210&gt; 16

&lt;211&gt; 897



&lt;212&gt; DNA

&lt;213&gt; Chlymidia trachomatis

&lt;400&gt; 16

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atggccttcta tatgcgagacg tttaggggtct ggtacagggga atgctctaaa agctttttttt 60
acacagccca acaataaaat ggcaagggta gtaaataaga cgaaggggaat ggataagact 120
attaaggttg ccaagtctgc tgccgaattg accgcaaata ttttggaaca agctggaggc 180
gcgggctctt ccgcacacat tacagcttcc caagtgtcca aaggattagg ggatgcgaga 240
actgttgctg ctttagggaa tgcccttaac ggagcgttgc caggaacagt tcaaagtgcg 300
caaagcttct tctctcacat gaaagctgct agtcagaaaa cgcaagaagg ggatgagggg 360
ctcacagcag atcttttgtg gtctcataag cgcagagcgg ctgcggtgtg ctgtagcatc 420
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gaagtgccgg gagaggaaaa tgcttgcgag aagaaagtcg ctggagagaa agccaagacg 720
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gacgttttca aattggtgcc gctgcctatt acaatgggta ttcgtgcgat tgtggtgct 840
ggatgtacgt tcacttctgc aattattgga ttgtgcactt tctgcgccag agcataa 897

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&lt;210&gt; 17

&lt;211&gt; 298

&lt;212&gt; PRT

&lt;213&gt; Chlamydia trachomatis

&lt;400&gt; 17

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Met Ala Ser Ile Cys Gly Arg Leu Gly Ser Gly Thr Gly Asn Ala Leu
1 5 10 15
Lys Ala Phe Phe Thr Gln Pro Asn Asn Lys Met Ala Arg Val Val Asn
20 25 30
Lys Thr Lys Gly Met Asp Lys Thr Ile Lys Val Ala Lys Ser Ala Ala
35 40 45
Glu Leu Thr Ala Asn Ile Leu Glu Gln Ala Gly Gly Ala Gly Ser Ser
50 55 60
Ala His Ile Thr Ala Ser Gln Val Ser Lys Gly Leu Gly Asp Ala Arg
65 70 75 80
Thr Val Val Ala Leu Gly Asn Ala Phe Asn Gly Ala Leu Pro Gly Thr
85 90 95
Val Gln Ser Ala Gln Ser Phe Phe Ser His Met Lys Ala Ala Ser Gln
100 105 110
Lys Thr Gln Glu Gly Asp Glu Gly Leu Thr Ala Asp Leu Cys Val Ser
115 120 125
His Lys Arg Arg Ala Ala Ala Val Cys Ser Ile Ile Gly Gly Ile
130 135 140
Thr Tyr Leu Ala Thr Phe Gly Ala Ile Arg Pro Ile Leu Phe Val Asn
145 150 155 160
Lys Met Leu Ala Lys Pro Phe Leu Ser Ser Gln Thr Lys Ala Asn Met
165 170 175
Gly Ser Ser Val Ser Tyr Ile Met Ala Ala Asn His Ala Ala Ser Val
180 185 190
Val Gly Ala Gly Leu Ala Ile Ser Ala Glu Arg Ala Asp Cys Glu Ala
195 200 205
Arg Cys Ala Arg Ile Ala Arg Glu Glu Ser Leu Leu Glu Val Pro Gly
210 215 220
Glu Glu Asn Ala Cys Glu Lys Lys Val Ala Gly Glu Lys Ala Lys Thr

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225                      230                      235                      240  
 Phe Thr Arg Ile Lys Tyr Ala Leu Leu Thr Met Leu Glu Lys Phe Leu  
                                  245                      250                      255  
 Glu Cys Val Ala Asp Val Phe Lys Leu Val Pro Leu Pro Ile Thr Met  
                                  260                      265                      270  
 Gly Ile Arg Ala Ile Val Ala Ala Gly Cys Thr Phe Thr Ser Ala Ile  
                                  275                      280                      285  
 Ile Gly Leu Cys Thr Phe Cys Ala Arg Ala  
                                  290                      295

<210> 18

<211> 18

<212> PRT

<213> Chlamydia trachomatis

<400> 18

Arg Ala Ala Ala Ala Ala Val Cys Ser Phe Ile Gly Gly Ile Thr  
 1                      5                      10                      15  
 Tyr Leu

<210> 19

<211> 18

<212> PRT

<213> Chlamydia trachomatis

<400> 19

Cys Ser Phe Ile Gly Gly Ile Thr Tyr Leu Ala Thr Phe Gly Ala Ile  
 1                      5                      10                      15  
 Arg Pro

<210> 20

<211> 216

<212> PRT

<213> Chlamydia trachomatis

<400> 20

Met Arg Gly Ser Gln Gln Ile Phe Val Cys Leu Ile Ser Ala Glu Arg  
 1                      5                      10                      15  
 Leu Arg Leu Ser Val Ala Ser Ser Glu Glu Leu Pro Thr Ser Arg His  
                                  20                      25                      30  
 Ser Glu Leu Ser Val Arg Phe Cys Leu Ser Thr Lys Cys Trp Gln Asn  
                                  35                      40                      45  
 Arg Phe Phe Leu Pro Lys Leu Lys Gln Ile Trp Asp Leu Leu Leu Ala  
                                  50                      55                      60  
 Ile Leu Trp Arg Leu Thr Met Gln Arg Leu Trp Trp Val Leu Asp Ser  
 65                      70                      75                      80  
 Leu Ser Val Arg Lys Glu Gln Ile Ala Lys Pro Ala Ala Leu Val Leu  
                                  85                      90                      95  
 Arg Glu Lys Ser Arg Tyr Ser Lys Cys Arg Glu Arg Lys Met Leu Ala  
                                  100                      105                      110  
 Arg Arg Lys Ser Leu Glu Arg Lys Pro Arg Arg Ser Arg Ala Ser Ser  
                                  115                      120                      125  
 Met His Ser Ser Leu Cys Ser Arg Ser Phe Trp Asn Ala Leu Pro Thr

130                                      135                                      140  
 Phe Ser Asn Trp Cys Arg Cys Leu Leu Gln Trp Val Phe Val Arg Leu  
 145                                      150                                      155                                      160  
 Trp Leu Leu Asp Val Arg Ser Leu Leu Gln Leu Leu Asp Cys Ala Leu  
                                     165                                      170                                      175  
 Ser Ala Pro Glu His Lys Gly Phe Phe Lys Phe Leu Lys Lys Lys Ala  
                                     180                                      185                                      190  
 Val Ser Lys Lys Lys Gln Pro Phe Leu Ser Thr Lys Cys Leu Ala Phe  
                                     195                                      200                                      205  
 Leu Ile Val Lys Ile Val Phe Leu  
                                     210                                      215

<210> 21

<211> 1256

<212> DNA

<213> Chlamydia trachomatis

<400> 21

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caagctctca	aatccttgct	ttgaataatc	cagatatttc	aaaaaccatg	ttcgataaat	180
tcacccgaca	aggactccgt	ttcgtagtag	aagcctctgt	atcaaatttt	gaggatatag	240
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atgaacgcgg	agtcacccct	accgatgcca	caatgcgcac	aaacgtacct	aacattttatg	420
ctattggaga	tatcacagga	aaatggcaac	ttgcccattg	agcttctcat	caaggaatca	480
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atctccttct	tcgcttactt	tttctgaaaa	atttgatata	gaagaagaat	tcctcgacac	660
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tgattctttg	cgagaattat	ccgctaagct	tggttacgat	agcgatggag	agactgggga	780
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agatttagat	agagcttggt	tagcaggtaa	actgggttat	atgttgctgg	gcgtgttagt	1140
tctagaatac	ccaagtgtcc	tccaggttgt	aatactcgat	acacttccct	aagagcctct	1200
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<210> 22

<211> 601

<212> DNA

<213> Chlamydia trachomatis

<400> 22

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caagctctca	aatccttgct	ttgaataatc	cagatatttc	aaaaaccatg	ttcgataaat	180
tcacccgaca	aggactccgt	ttcgtagtag	aagcctctgt	atcaaatttt	gaggatatag	240
gagatcgctg	tcggttaact	atcaatggga	atgtcgaaga	atacgattac	gttctcgtat	300
ctataggacg	ccgtttgaat	acagaaaata	ttggcttgga	taaagctggg	gttattttgtg	360
atgaacgcgg	agtcacccct	accgatgcca	caatgcgcac	aaacgtacct	aacattttatg	420
ctattggaga	tatcacagga	aaatggcaac	ttgcccattg	agcttctcat	caaggaatca	480
ttgcagcacg	gaatataggt	ggccataaag	aggaaatcga	ttactctgct	gtcccttctg	540

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a 601

<210> 23

<211> 270

<212> DNA

<213> Chlamydia trachomatis

<400> 23

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tttgattcctt tgcgagaatt atccgctaag cttggttacg atagcgatgg agagactggg 180  
gatttcttca acgaggagta cgacgacgaa gaagaggaaa tcaaaccgaa gaaaactacg 240  
aaacgtggac gtaagaagag ccgttcataa 270

<210> 24

<211> 363

<212> DNA

<213> Chlamydia trachomatis

<400> 24

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gcgtaaatgc gctgcatgaa agattgcttc gagagcggca tcgcgtggga gatcccgat 120  
actttcttct agatacgaat aagcatagct gttcccagaa taaaaacggc cgacgctagg 180  
aacaacaaga tttagataga gcttggtgtag caggtaaact gggttatatg ttgctgggcg 240  
tgttagtctt agaataccca agtgctctcc aggttgtaat actcgataca cttccctaag 300  
agcctctaatt ggataggata agttccgtaa tccataggcc atagaagcta aacgaaacgt 360  
att 363

<210> 25

<211> 696

<212> DNA

<213> Chlamydia trachomatis

<400> 25

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gcaagctctc aaatccttgc tttgaataat ccagatattt caaaaacat gttcgataaa 180  
ttcaccgac aaggactccg tttcgtacta gaagcctctg tatcaaatat tgaggatata 240  
ggagatcgcg ttcggttaac tatcaatggg aatgtcgaag aatacgatta cgttctcgta 300  
tctataggac gccgtttgaa tacagaaaat attggcttgg ataaagctgg tgttatttgt 360  
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gctattggag atatcacagg aaaatggcaa cttgcccatg tagcttctca tcaaggaatc 480  
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gtgatcttta cttccctga agtcgcttca gtaggcctct cccaacagc agtcaacaa 600  
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acttgcgagg aggagggcgt ctggaagacc agttga 696

<210> 26

<211> 231

<212> PRT

<213> Chlamydia trachomatis

<400> 26

Ala Arg Ala Gly Thr Ser Lys Glu Ile Pro Gln Lys Met Ala Ile Ile

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<210> 27
<211> 264
<212> DNA
<213> Chlamydia pneumoniae
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<210> 28
<211> 87
<212> PRT
<213> Chlamydia pneumoniae
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<400> 28															
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Ser	Thr	Asp	Leu	Ala	Val	Ile	Val	Gly	Lys	Gly	Pro	Met	Pro	Arg	Thr
			20					25					30		
Glu	Ile	Val	Lys	Lys	Val	Trp	Glu	Tyr	Ile	Lys	Lys	His	Asn	Cys	Gln
		35					40					45			
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<210> 29
<211> 369
<212> DNA
<213> Chlamydia pneumoniae
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<210> 30
<211> 122
<212> PRT
<213> Chlamydia pneumoniae
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<210> 31
<211> 10
<212> PRT
<213> Artificial Sequence
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<400> 31  
 Cys Ser Phe Ile Gly Gly Ile Thr Tyr Leu  
 1 5 10

<210> 32  
 <211> 53  
 <212> PRT  
 <213> Chlamydia trachomatis

<400> 32  
 Leu Cys Val Ser His Lys Arg Arg Ala Ala Ala Val Cys Ser Phe  
 1 5 10 15  
 Ile Gly Gly Ile Thr Tyr Leu Ala Thr Phe Gly Ala Ile Arg Pro Ile  
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 Leu Phe Val Asn Lys Met Leu Ala Gln Pro Phe Leu Ser Ser Gln Thr  
 35 40 45  
 Lys Ala Asn Met Gly  
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<210> 33  
 <211> 161  
 <212> DNA  
 <213> Chlamydia trachomatis

<400> 33  
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 caaaaccgtt tctttcttcc caaactaaag caaatatggg a 161

<210> 34  
 <211> 53  
 <212> PRT  
 <213> Chlamydia trachomatis

<400> 34  
 Leu Cys Val Ser His Lys Arg Arg Ala Ala Ala Val Cys Ser Ile  
 1 5 10 15  
 Ile Gly Gly Ile Thr Tyr Leu Ala Thr Phe Gly Ala Ile Arg Pro Ile  
 20 25 30  
 Leu Phe Val Asn Lys Met Leu Ala Lys Pro Phe Leu Ser Ser Gln Thr  
 35 40 45  
 Lys Ala Asn Met Gly  
 50

<210> 35  
 <211> 55  
 <212> DNA  
 <213> Chlamydia pneumoniae

<400> 35  
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<210> 36  
 <211> 33  
 <212> DNA  
 <213> Chlamydia pneumoniae

<400> 36  
 ctcgaggaat tcttatttta caatatgttt gga 33

<210> 37  
 <211> 53  
 <212> DNA  
 <213> Chlamydia pneumoniae

<400> 37  
 gatatacata tgcatacaca tcaccatcac atgccacgca tcattggaat gat 53

<210> 38  
 <211> 30  
 <212> DNA  
 <213> Chlamydia pneumoniae

<400> 38  
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<210> 39  
 <211> 16  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Made in the lab

<400> 39  
 Lys Arg Asn Ile Asn Pro Asp Asp Lys Leu Ala Lys Val Phe Gly Thr  
 1 5 10 15

<210> 40  
 <211> 16  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> made in the lab

<400> 40  
 Lys Arg Asn Ile Leu Pro Asp Ala Asn Leu Ala Lys Val Phe Gly Ser  
 1 5 10 15

<210> 41  
 <211> 15  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> made in the lab

<400> 41  
 Lys Glu Tyr Ile Asn Gly Asp Lys Tyr Phe Gln Gln Ile Phe Asp  
 1 5 10 15

<210> 42



<211> 16  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> made in the lab

<400> 42  
 Lys Lys Ile Ile Ile Pro Asp Ser Lys Leu Gln Gly Val Ile Gly Ala  
 1 5 10 15

<210> 43  
 <211> 15  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> made in the lab

<400> 43  
 Lys Lys Leu Leu Val Pro Asp Asn Asn Leu Ala Thr Ile Ile Gly  
 1 5 10 15

<210> 44  
 <211> 509  
 <212> DNA  
 <213> Chlamydia

<400> 44  
 ggagctcgaa ttcggcacga gactgcctat tgttttgcag gctttgtctg atgatagcga 60  
 taccgtacgt gagattgctg tacaagtagc tgttatgtat ggttctagtt gcttactgcg 120  
 cgccgtgggc gatttagcga aaaatgattc ttctattcaa gtacgcatca ctgcttatcg 180  
 tgctgcagcc gtgttggaga tacaagatct tgtgcctcat ttacgagttg tagtccaaaa 240  
 tacacaatta gatggaacgg aaagaagaga agcttggaga tctttatgtg ttcttactcg 300  
 gcctcatagt ggtgtattaa ctggcataga tcaagcttta atgacctgtg agatgttaaa 360  
 ggaatatcct gaaaagtgtg cggaagaaca gattcgtaca ttattggctg cagatcatcc 420  
 agaagtgcag gtagctactt tacagatcat tctgagagga ggtagagtat tccggtcatc 480  
 ttctataatg gaatcggttc tcgtgccgg 509

<210> 45  
 <211> 481  
 <212> DNA  
 <213> Chlamydia

<220>  
 <221> unsure  
 <222> (23)  
 <223> n=A,T,C or G

<400> 45  
 gatccgaatt cggcacgagg cantatttac tcccaacatt acggttccaa ataagcgata 60  
 aggtcttcta ataaggaagt taatgtaaga ggctttttta ttgcttttcg taaggtagta 120  
 ttgcaaccgc acgcgattga atgatacgca agccatttcc atcatggaaa agaacccttg 180  
 gacaaaaata caaaggaggt tcaactcctaa ccagaaaaag ggagagttag tttccatggg 240  
 ttttccttat atacaccctg ttcacacaat taggagccgc gtctagtatt tggaatacaa 300

```

attgtcccca agcgaatttt gttcctggtt cagggatttc tcctaattgt tctgtcagcc 360
atccgcctat ggtaacgcaa ttagctgtag taggaagatc aactccaaac aggtcataga 420
aatcagaaag ctcataggtg cctgcagcaa taacaacatt cttgtctgag tgagcgaatt 480
g                                                                 481

```

```

<210> 46
<211> 427
<212> DNA
<213> Chlamydia

```

```

<220>
<221> unsure
<222> (20)
<223> n=A,T,C or G

```

```

<400> 46
gatccgaatt cggcaccagn ttttctctgt ttttcttag ttttagtgt tcccggagca 60
ataaacacaga tcaaagaacg gccattcagt ttaggctctg actcaacaaa acctatgtcc 120
tctaagccct gacacattct ttgaacaacc ttatgcccggt gttcgggata agccaactct 180
cgcccccgaa acatacaaga aacctttact ttatttctct tctcaataaa ggctctaget 240
tgctttgctt tcgtaagaaa gtcggttatca tcgatattag gcttaagctt aacctctttg 300
atacgcaactt ggtgctgtgc tttcttacta tcttttctct ttttagttat gtcgtaacga 360
tacttcccgt agtccatgat tttgcacaca ggaggctctg agtttgaagc aacctcgtgc 420
cgaattc                                                                 427

```

```

<210> 47
<211> 600
<212> DNA
<213> Chlamydia

```

```

<220>
<221> unsure
<222> (522)
<223> n=A,T,C or G

```

```

<400> 47
gatccgaatt cggcaccaga tgcttctatt acaattgggt tggatgcgga aaaagcttac 60
cagcttattc tagaaaagtt gggagatcaa attcttggtg gaattgctga tactattgtt 120
gatagtacag tccaagatat tttagacaaa atcacacag acccttctct aggtttgttg 180
aaagctttta acaactttcc aatcactaat aaaattcaat gcaacgggtt attcactccc 240
aggaacattg aaactttatt aggaggaact gaaataggaa aattcacagt cacacccaaa 300
agctctggga gcatgttctt agtctcagca gatattattg catcaagaat ggaaggcggc 360
gttgttctag ctttggtacg agaaggtgat tctaagccct acgcgattag ttatggatac 420
tcatcaggcg ttctaattt atgtagtcta agaaccagaa ttattaatac aggattgact 480
ccgacaacgt attcattacg tgtaggcggt ttagaaagcg gngtggtatg gggttaatgcc 540
cttttctaag gcaatgatat tttaggaata acaaattctt taatgtatct tttttggagg 600

```

```

<210> 48
<211> 600
<212> DNA
<213> Chlamydia

```

```

<400> 48
ggagctcgaa ttcggcacga gctctatgaa tatccaattc tctaaactgt tcggataaaa 60
atgatgcagg aattaggtcc acactatctt tttttgtttc gcaaattgatt gatttttaaa 120

```

```

cgtttgatgt gtatactatg tcgtgtaagc ctttttggtt acttctgaca ctagccccc 180
atccagaaga taaattggat tgccgggtcta ggtagcaag taacactttt tccctaaaa 240
attgggccaa gttgcatccc acgttttagag aaagtgtgtt tttccagtt cctcccttaa 300
aagagcaaaa aactaagggtg tgcaaatcaa ctccaacgtt agagtaagtt atctattcag 360
ccttggaana catgtctttt ctagacaaga taagcataat caaagccttt tttagcttta 420
aactgttatc ctctaatttt- tcaagaacag gagagtctgg gaataatcct aaagagtgtt 480
ctatttggtg aagcagtcct agaattagtg agacactttt atggtagagt tctaaggagg 540
aatttaagaa agttactttt tccttggtta ctctgatttt taggtctaata tcgggggaaat 600

```

<210> 49

<211> 600

<212> DNA

<213> Chlamydia

<400> 49

```

gatccgaatt cggcacgaga tgcttctatt acaattgggtt tggatgcgga aaaagcttac 60
cagcttattc tagaaaagtt gggagatcaa attcttggtg gaattgctga tactattggt 120
gatagtacag tccaagatat tttagacaaa atcacaacag acccttctct aggtttgttg 180
aaagctttta acaacttttc aatcactaat aaaattcaat gcaacgggtt attcactccc 240
aggaacattg aaactttatt aggaggaact gaaataggaa aattcacagt cacacccaaa 300
agctctggga gcatgttctt agtctcagca gatattattg catcaagaat ggaaggcggc 360
gttgttctag ctttggtacg agaagggtgat tctaagccct acgcgattag ttatggatac 420
tcacaggcgg ttcctaattt atgtagtcta agaaccagaa ttattaatac aggattgact 480
ccgacaacgt attcattacg tgtaggcggg ttagaaagcg gtgtggtatg ggttaatgcc 540
ctttctaatt gcaatgatat tttaggaata acaataactt ctaatgtatc ttttttgag 600

```

<210> 50

<211> 406

<212> DNA

<213> Chlamydia

<400> 50

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gatccgaatt cggcacgagt tcttagcttg cttaattacg taattaacca aactaaaggg 60
gctatcaaat agcttattca gtctttcatt agttaaacga tcttttctag ccatgactca 120
tcctatgttc ttcagctata aaaataactt ttaaaacttg atatgctgta atcaaatcat 180
cattaaccac aacataatca aattcgctag cggcagcaat ttcgacagcg ctatgctcta 240
atctttcttt cttctggaaa tctttctctg aatcccgagc attcaaacgg cgtcaagtt 300
cttcttgaga gggagcttga ataaaaatgt gactgccggc atttgcttct tcagagccaa 360
agctccttgt acatcaatca cggctatgca gtctcgtgcc gaattc 406

```

<210> 51

<211> 602

<212> DNA

<213> Chlamydia

<400> 51

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gatccgaatt cggcacgaga tatttttagac aaaatcacaa cagacccttc tctaggtttg 60
ttgaaagctt ttaacaactt tccaatcact aataaaattc aatgcaacgg gttattcact 120
cccaggaaac ttgaaacttt attaggagga actgaaatag gaaaattcac agtcacaccc 180
aaaagctctg ggagcatgtt cttagtctca gcagatatta ttgcatcaag aatggaaggc 240
ggcgttggtc tagcttttgt acgagaagggt gattctaagc cctacgcgat tagttatgga 300
tactcatcag gcgttcctaa tttatgtagt ctaagaacca gaattattaa tacaggattg 360
actccgacaa cgtattcatt acgtgtaggc ggtttagaaa gcggtgtggt atgggttaat 420
gccctttcta atggcaatga tatttttagga ataacaaata cttctaattg atcttttttg 480
gaggtaatat ctcaacaaa cgcttaaaaa atttttattg gatttttctt atagggttta 540

```

tatttagaga aaaaagttcg aattacgggg tttgttatgc aaaataaact cgtgccgaat 600  
tc 602

<210> 52

<211> 145

<212> DNA

<213> Chlamydia

<400> 52

gatccgaatt cggcaccgagc tcgtgccgat gtgttcaaca gcatccatag gatgggcagt 60  
caaatatact ccaagtaatt ctttttctct tttcaacaac tccttaggag agcggttgat 120  
aacattttca gctcgtgccg aattc 145

<210> 53

<211> 450

<212> DNA

<213> Chlamydia

<400> 53

gatccgaatt cggcaccgagg taatcggcac cgcactgctg acactcatct cctcgagctc 60  
gatcaaacc acacttgga caagtaccta caacataacg gtccgctaaa aacttccctt 120  
cttcctcaga atacagctgt tcggtcacct gattctctac cagtcgcgt tctgcaagt 180  
ttcgatagaa atcttgcaca atagcaggat gataagcgtt cgtagtcttg gaaaagaaat 240  
ctacagaaat tcccaatttc ttgaaggat ctttatgaag cttatgatac atgtcgacat 300  
attcttgata ccccatgcct gccaaactctg cattaagggt aattgcgatt ccgtattcat 360  
cagaaccaca aatatacaaa acctctttgc cttgtagtct ctgaaaacgc gcataaacat 420  
ctgcaggcaa ataagcctcg tgccgaattc 450

<210> 54

<211> 716

<212> DNA

<213> Chlamydia

<400> 54

gatcgaaatt cggcaccgagc ggcaccgagtt ttctgatagc gatttacaat cttttattca 60  
acttttgcct agagaggcac actatactaa gaagtttctt ggggtgtgtg cacagtcctg 120  
tcgtcagggg attctgctag aggggtaggg gaaaaaaccc ttattactat gaccatgccc 180  
atgtggaatt acattccata gactttcgca tcattcccaa catttacaca gctctacacc 240  
tcttaagaag aggtgacgtg gattgggtgg ggcagccttg gcaccaaggg attccttttg 300  
agcttcggac tacctctgct ctctacaccc attaccctgt agatggcaca ttctggctta 360  
ttcttaatcc caaagatcct gtactttcct ctctatctaa tcgtcagcga ttgattgctg 420  
ccatccaaaa ggaaaaactg gtgaagcaag ctttaggaac acaatatcga gttagctgaaa 480  
gctctccatc tccagaggga atcatagctc atcaagaagc ttctactcct tttcctggga 540  
aaattacttt gatatatccc aataatatta cgcgctgtca gcgtttggcc gaggtatcca 600  
aaaaatgatc gacaaggagc acgctaaatt tgtacatacc ccaaaatcaa tcagccatct 660  
aggcaaatgg aatatcaaag taaacagtat acaactgggg atctcgtgcc gaattc 716

<210> 55

<211> 463

<212> DNA

<213> Chlamydia trachomatis

<400> 55

tctcaaatcc ttgctttgaa taatccagat atttcaaaaa ccatgttcga taaattcacc 60  
cgacaaggac tccgtttcgt actagaagcc tctgtatcaa atattgagga tataggagat 120

```

cgcgttcggg taactatcaa tgggaatgtc gaagaatacg attacgttct cgtatctata 180
ggacgccggt tgaatacaga aaatattggc ttggataaag ctggtgttat ttgtgatgaa 240
cgcgaggatca tccctaccga tgccacaatg cgcacaaacg tacctaacat ttatgctatt 300
ggagatatca caggaaaatg gcaacttgcc catgtagctt ctcataaagg aatcattgca 360
gcacggaata taggtggcca taaagaggaa atcgattact ctgctgtccc ttctgtgatc 420
tttaccttcc ctgaagtcgc ttcagtaggc ctctcccca cag 463

```

&lt;210&gt; 56

&lt;211&gt; 829

&lt;212&gt; DNA

<213> *Chlamydia trachomatis*

&lt;400&gt; 56

```

gtactatggg atcattagtt ggaagacagg ctccggattt ttctggtaaa gccgttggtt 60
gtggagaaga gaaagaaatc tctctagcag actttcgtgg taagtatgta gtgctcttct 120
tttatcctaa agattttacc tatgtttgtc ctacagaatt acatgctttt caagatagat 180
tggtagattt tgaagagcat ggtgcagtcg tccttgggtg ctccgttgac gacattgaga 240
cacattctcg ttggctcact gtacgagag atgcaggagg gatagaggga acagaatatc 300
ctctgttagc agacccctct tttaaaatat cagaagcttt tgggtgtttg aatcctgaag 360
gatcgctcgc ttttaagagc actttcetta tcgataaaca tgggggttatt cgtcatgcgg 420
ttatcaatga tcttctctta gggcggtcca ttgacgagga attgctgatt ttagattcat 480
tgatcttctt tgagaaccac ggaatgggtt gtccagctaa ctggcgcttct ggagagcgtg 540
gaatggtgcc ttctgaagag ggattaaaag aatacttcca gacgatggat taagcatctt 600
tgaaagtaag aaagtcgtac agatcttgat ctgaaaagag aagaaggctt tttaattttc 660
tgcagagagc cagcgaggct tcaataatgt tgaagtctcc gacaccaggc aatgctaagg 720
cgacgatatt agttagtga gtctgagtat taaggaaatg aaggccaaag aaatagctat 780
caataaagaa gccttcttcc ttgactctaa agaatagtat gtcgtatcc 829

```

&lt;210&gt; 57

&lt;211&gt; 1537

&lt;212&gt; DNA

<213> *Chlamydia trachomatis*

&lt;400&gt; 57

```

acatcaagaa atagcggact cgccttttagt gaaaaaagct gaggagcaga ttaatcaagc 60
acaacaagat attcaaacga tcacacctag tgggttggat attcctatcg ttgggtccgag 120
tgggtcagct gcttccgcag gaagtgcggc aggagcgttg aaatcctcta acaattcagg 180
aagaatttcc ttgttgcttg atgatgtaga caatgaaatg gcagcgattg caatgcaagg 240
ttttcgatct atgatcgaac aatttaatgt aaacaatcct gcaacagcta aagagctaca 300
agctatggag gctcagctga ctgcgatgtc agatcaactg gttgggtgagg atggcgagct 360
cccagccgaa atacaagcaa tcaaagatgc tcttgcgcaa gctttgaaac aaccatcagc 420
agatggttta gctacagcta tgggacaagt ggcttttgca gctgccaaagg ttggaggagg 480
ctccgcagga acagctggca ctgtccagat gaatgtaaaa cagctttaca agacagcgtt 540
ttcttcgact tcttccagct cttatgcagc agcactttcc gatggatatt ctgcttaca 600
aacactgaac tctttatatt ccgaaagcag aagcggcgtg cagtcagcta ttagtcaaac 660
tgcaaatccc gcgctttcca gaagcgtttc tcgttctggc atagaaagtc aaggacgcag 720
tgcagatgct agccaaagag cagcagaaac tattgtcaga gatagccaaa cgttagggtga 780
tgtatatagc cgcttacagg ttctggattc tttgatgtct acgattgtga gcaatccgca 840
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tgggtatcct gctgttcaga attctgtgga tagcttgca aagtttgctg cacaattgga 960
aagagagttt gttgatggg aacgtagtct cgcagaaatc caagagaatg cgtttagaaa 1020
acagcccgtt ttcattcaac aggtgttggt aaacattgct tctctattct ctggttatct 1080
ttcttaacgt gtgattgaag tttgtgaatt gagggggagc caaaaaagaa tttctttttt 1140
ggctcttttt tcttttcaa ggaatctcgt gtctacagaa gtcttttcaa taataagttc 1200
ttagttccaa aagaagaaaa tatataaaag aaaaaactcc taattcattt aaaaagtgtc 1260

```

```

cggcagactt cgtggaaaat gtctgtaaaag ctggagggga atcagcagaa agatgcaaga 1320
tatccgagaa aaaaggctca ggctcgtgcc gaattcggca cgagactacg aaagaaagggt 1380
cttttctttc ggaatctgtc attggatctg cgtaagactt aaagtccggc aacacagggt 1440
ctgtcttttc tttaggtttc ttgcgcgaga aaaattttct caagtaacaa gaagatttct 1500
ttttacagcc ggcattccggc ttctcgcgaa gtataac 1537

```

<210> 58

<211> 463

<212> DNA

<213> Chlamydia trachomatis

<400> 58

```

tctcaaattc ttgctttgaa taatccagat atttcaaaaa ccatgttcga taaattcacc 60
cgacaaggac tccgtttcgt actagaagcc tctgtatcaa atattgagga tataggagat 120
cgcgttcggg taactatcaa tgggaatgtc gaagaatacg attacgttct cgtatctata 180
ggacgccggt tgaatacaga aaatattggc ttggataaag ctgggtgttat ttgtgatgaa 240
cgcggagtca tccctaccga tggcacaatg cgcacaacg tacctaacat ttatgctatt 300
ggagatatca caggaaaatg gcaacttgcc catgtagctt etcatcaagg aatcattgca 360
gcacggaata taggtggcca taaagaggaa atcgattact ctgctgtccc ttctgtgatc 420
tttaccttcc ctgaagtcgc ttcagtaggc ctctcccaa cag 463

```

<210> 59

<211> 552

<212> DNA

<213> Chlamydia trachomatis

<400> 59

```

acattcctcc tgctcctcgc ggccatccac aaattgaggt aaccttcgat attgatgcca 60
acggaatttt acacgtttct gctaaagatg ctgctagtgg acgcgaacaa aaaatccgta 120
ttgaagcaag ctctggatta aaagaagatg aaattcaaca aatgatccgc gatgcagagc 180
ttcataaaga ggaagacaaa caacgaaaag aagcttctga tgtgaaaaat gaagccgatg 240
gaatgatctt tagagccgaa aaagctgtga aagattacca cgacaaaatt cctgcagaac 300
ttgttaaaga aattgaagag catattgaga aagtacgcca agcaatcaaa gaagatgctt 360
ccacaacagc tatcaaagca gcttctgatg agttgagtac tcgtatgcaa aaaatccggag 420
aagctatgca ggctcaatcc gcattccgag cagcatcttc tgcagcgaat gctcaaggag 480
ggccaaacat taactccgaa gatctgaaaa aacatagttt cagcacacga cctccagcag 540
gaggaagcgc ct 552

```

<210> 60

<211> 1180

<212> DNA

<213> Chlamydia trachomatis

<400> 60

```

atcctagcgg taaaactgct tactggtcag ataaaaatcca tacagaagca acacgtactt 60
cttttaggag aaaaaatcta taatgctaga aaaatcctga gtaaggatca cttctcctca 120
acaacttttt catcttggat agagttagtt tttagaacta agtcttctgc ttacaatgct 180
cttgcattat acgagctttt tataaacctc cccaacaaa ctctacaaa agagtttcaa 240
tcgatccctt ataaatccgc atatatattg gccgctagaa aaggcgattt aaaaaccaag 300
gtcgatgtga tagggaaagt atgtggaatc tcgtgcgcaa ttcggcacga gcggcacgag 360
gatgtagagt aattagttaa agagctgcat aattatgaca aagcatggaa aacgcattcg 420
tggatatcaa gagacttacg atttagctaa gtcgtattct ttgggtgaag cgatagatat 480
tttaaaacag tgtcctactg tgcgtttcga tcaaacggtt gatgtgtctg ttaaatagg 540
gatcgatcca agaaagagt atcagcaaat tcgtggttcg gtttctttac ctcacggtac 600
aggtaaagtt ttgcgaattt tagtttttgc tgctggagat aaggctgcag aggctattga 660

```

```

agcaggagcg gactttgttg gtagcgacga cttggtagaa aaaatcaaag gtggatgggt 720
tgacttcgat gttgcggttg ccaactccga tatgatgaga gaggtcggaa agctaggaaa 780
agtttttaggt ccaagaaacc ttatgcctac gcctaaagcc ggaactgtaa caacagatgt 840
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tgtatgcaac gtcggagttg cgaagctttc tttcgatagt gcgcaaatca aagaaaatgt 960
tgaagcgttg tgtgcagcct tagttaaagc taagcccga actgctaaag gacaatattt 1020
agttaatttc actatttcct cgaccatggg gccaggggtt accgtggata ctaggggagt 1080
gattgcgtta taattctaag tttaaagagg aaaaatgaaa gaagagaaaa agttgctgct 1140
tcgcgaggtt gaagaaaaga taaccgcttc tcggcacgag 1180

```

<210> 61

<211> 1215

<212> DNA

<213> Chlamydia trachomatis

<400> 61

```

attacagcgt gtgcaggtta cgacatcatt gcatgatgct tttgatggca ttgatgcggc 60
attccttata gggtcagttc ctagaggccc aggaatggag agaagagatc ttctaaagaa 120
aaatggggag attgttgcta cgcaaggaaa agctttgaac acaacagcca agcgggatgc 180
aaagattttt gttgttgga accctgtgaa taccaattgc tggatagcaa tgaatcatgc 240
tcccagatta ttgagaaaga actttcatgc gatgctacga ttggaccaga atcgatgca 300
tagcatgcta tcgcatagag cagaagtacc tttatcggt gtatcacaag ttgtggtttg 360
gggaaatcac tccgccaac aagtgcctga ttttacgcaa gctctgatta atgaccgtcc 420
tatcgagag acgatagcgg atcgatgatt gttagagaat attatgggtc cttctgtaca 480
gagtcgtggt agtcagtaa ttgaagcacg agggaagtct tcggcagctt ctgcagcacg 540
agcttttagca gaggtgctc gatcaatata tcagccaaaa gaaggactcg tgccgaattc 600
ggcacgagta tcgaaattgc aggcatctt agtgaatggt cgtatgctta taaactacgt 660
ggtacagact tgagctctca aaagtttgct acagattctt acatcgaga ccttattct 720
aagaatatct actccctca actatttgga tcccctaaac aagaaaagga ttacgcattt 780
agttacctga aatatgagga ttttgactgg gaaggcgaca ctctttgca ccttccaaa 840
gaaaattact tcatttatga aatgcattgt cggtcattca cccgagatcc gtcttccag 900
gtttcccatc ctggaacttt ccttggtatc atcgaaaaaa tagaccacct caaacaacta 960
ggcgttcag cagttgaact ccttctatt tcgaattcg atgaaaccgt ccatccattt 1020
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tgccctctc gccgttatac ttatggggca gacccttgcg ctccggcccg agagttcaag 1140
actcttgta aagcgttaca ccgtgcggga atcgaaagta ttctcgatgt cgttttcaat 1200
catacaggct ttgaa 1215

```

<210> 62

<211> 688

<212> DNA

<213> Chlamydia trachomatis

<400> 62

```

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catgccgcac atccgcttct tcatgttctg tgaaatatgc atagtcttca ggattggaaa 180
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cataagaata caaagcagcc actcctgcag cttaaagaatc tcctgtacac caccgcata 300
aagtagctac tttcgctttt gctgttcac taggctcatg agcctctaac tcttctggag 360
taactcctag agcaaacaca aactgcttcc acaaatcaat atgattaggg taaccgttct 420
cttcatccat caagttatct aacaataact tacgcgcctc taaatcatcg caacgactat 480
gaatcgcaga taaatattta ggaaaggctt tgatatgtaa ataatagtct ttggcacgag 540
cctgtaattg ctcttttagta agctccccct tcgaccattt cacataaaac gtgtgttcta 600
gcatatgctt attttgaata attaaatcta actgatctaa aaaattcata aacacctcca 660

```

tcattttcttt tcttgactcc acgtaacc

688

<210> 63

<211> 269

<212> DNA

<213> Chlamydia trachomatis

<400> 63

atgttgaaat	cacacaagct	gttcctaaat	atgctacggt	aggatctccc	tatcctggtg	60
aaattactgc	tacaggtaaa	agggattgtg	ttgatggtat	cattactcag	caattaccat	120
gtgaagcaga	gttcgtacgc	agtgatccag	cgacaactcc	tactgctgat	ggtaagctag	180
tttgaaaaat	tgaccgctta	ggacaaggcg	aaaagagtaa	aattactgta	tgggtaaaac	240
ctcttaaaqa	aggttgcctg	tttacagct				269

<210> 64

<211> 1339

<212> DNA

<213> Chlamydia trachomatis

<400> 64

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ccccggcgaa	ggatcttggg	attctctccg	cctgggaagc	tggtgagctg	cgttacaaac	180
agctagttaa	tccttaggaa	acatttctgg	acctatgcc	atcacattgg	ctccgtgac	240
cacatagaga	gtttctcccg	taattgcgct	agctagggga	gagactaaga	aggctgctgc	300
tgcgcctact	tgctcagctt	ccattggaga	aggtagtggg	gcccagctct	ggtagtaatc	360
caccattctc	tcaataaaatc	caatagcttt	tcctgcacgg	ctagctaattg	gcctgtccga	420
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agagagaagg	ctgataaagg	agtagctgga	tgtacttaag	gcggcaagat	agcctttacg	660
agaggatatca	agtaatggtt	tagcaatttc	cggactgttt	gctaaagagt	gaacaagaat	720
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aagatctttg	taacgtttat	tttccaaaat	ttcctgagga	atatcttctg	gggtgtcgaa	840
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agatgcattg	aattttccta	actcccaaga	ttgagagaaa	attttataga	taggaacca	960
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cccgttatca	tccgctatgc	cggctatgaa	agcaattttt	cctgttaaatt	caatttttcaa	1080
catgagctaa	ccccatttgc	tgtctttgag	agaggagagt	agcagattct	ttattattga	1140
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aaagagtttc	cttgtcaaat	tcttatatgg	gtagagttaa	tcaactgttt	tcaagtgttt	1260
tatgttttatt	ttaaaataat	ttgttttaac	aactgtttta	tagttttta	ttttaaagtg	1320
tgaaaaaacag	gtttttatat					1339

<210> 65

<211> 195

&lt;212&gt; PRT

<213> Chlamydia trachomatis

<400> 65

Met Gly Ser Leu Val Gly Arg Gln Ala Pro Asp Phe Ser Gly Lys Ala  
5 10 15

Val Val Cys Gly Glu Glu Lys Glu Ile Ser Leu Ala Asp Phe Arg Gly  
20 25 30



Lys Tyr Val Val Leu Phe Phe Tyr Pro Lys Asp Phe Thr Tyr Val Cys  
35 40 45

Pro Thr Glu Leu His Ala Phe Gln Asp Arg Leu Val Asp Phe Glu Glu  
50 55 60

His Gly Ala Val Val Leu Gly Cys Ser Val Asp Asp Ile Glu Thr His  
65 70 75 80

Ser Arg Trp Leu Thr Val Ala Arg Asp Ala Gly Gly Ile Glu Gly Thr  
85 90 95

Glu Tyr Pro Leu Leu Ala Asp Pro Ser Phe Lys Ile Ser Glu Ala Phe  
100 105 110

Gly Val Leu Asn Pro Glu Gly Ser Leu Ala Leu Arg Ala Thr Phe Leu  
115 120 125

Ile Asp Lys His Gly Val Ile Arg His Ala Val Ile Asn Asp Leu Pro  
130 135 140

Leu Gly Arg Ser Ile Asp Glu Glu Leu Arg Ile Leu Asp Ser Leu Ile  
145 150 155 160

Phe Phe Glu Asn His Gly Met Val Cys Pro Ala Asn Trp Arg Ser Gly  
165 170 175

Glu Arg Gly Met Val Pro Ser Glu Glu Gly Leu Lys Glu Tyr Phe Gln  
180 185 190

Thr Met Asp  
195

<210> 66

<211> 520

<212> DNA

<213> Chlamydia

<400> 66

```

gatccgaatt cggcaccgagg aggaatggaa gggccctccg attttaaatc tgctaccatg 60
ccattcacta gaaactccat aacagcgggt ttctctgatg gcgagtaaga agcaagcatt 120
tgatgtaaatt tagcgcaatt agagggggat gaggttactt ggaaatataa ggagcgaagc 180
gatgaaggag atgtatttgc tctggaagca aaggtttctg aagctaacag aacattgcgt 240
cctccaacaa tcgcctgagg attctggctc atcagttgat gctttgcctg aatgagagcg 300
gacttaagtt tcccatcaga gggagctatt tgaattagat aatcaagagc tagatccttt 360
attgtgggat cagaaaattt acttgtgagc gcatcgagaa ttctgtcaga agaagaatca 420
tcatcgaacg aatttttcaa tcctcgaaaa tcttctccag agacttcgga aagatcttct 480
gtgaaacgat cttcaagagg agtatcgctt ttttctctg 520

```

<210> 67

<211> 276

<212> DNA

<213> Chlamydia

&lt;400&gt; 67

```

gatccgaatt cggcaccgagg tattgaagga gaaggatctg actcgatcta tgaaatcatg 60
atgcctatct atgaagttat gaatatggat ctagaaacac gaagatcttt tgcggtacag 120
caagggcact atcaggaccc aagagcttca gattatgacc tcccacgtgc tagcgactat 180
gatttgccta gaagcccata tctactcca cctttgcctt ctagaatata gctacagaat 240
atggatgtag aagcagggtt ccgtgaggca gtttat 276

```

&lt;210&gt; 68

&lt;211&gt; 248

&lt;212&gt; DNA

&lt;213&gt; Chlamydia

&lt;400&gt; 68

```

gatccgaatt cggcaccgagg tgttcaagaa tatgtccttc aagaatgggt taaattgaaa 60
gatctaccgg tagaagagtt gctagaaaaa cgatatcaga aattccgaac gatagggtcta 120
tatgaaaactt cttctgaaag cgattctgag gcataagaag catttagttt tattcggttt 180
ttctctttta tccatattag ggctaacgat aacgtctcaa gcagaaattt tttctctagg 240
tcttattg 248

```

&lt;210&gt; 69

&lt;211&gt; 715

&lt;212&gt; DNA

&lt;213&gt; Chlamydia

&lt;220&gt;

&lt;221&gt; unsure

&lt;222&gt; (34)

&lt;223&gt; n=A,T,C or G

&lt;400&gt; 69

```

gatccgaatt cggcaccgaga aggtagatcc gatntcagca aaagtgtctc taaaggaaga 60
ttccttcggt atcctgcagc aaataagggtg gcacactcca tctcggacag tttgagcttt 120
atcttcatat agttttcgac ggaactcttt attaaactcc caaaaccgaa tgttagtcgt 180
gtgggtgatg cctatatggt aagggagggtt tttggcttcg agaattattg tgatcatttt 240
ttgtacgaca aaattagcta atgcagggac ctctgggggg aagtatgcat ctgatgttcc 300
atcttttcgg atgctagcaa cagggacaaa ataatctcct atttggtagt gggatcttaa 360
gcctccgcac atgcccaaca tgatcgctgc tgtagcattg ggaaggaaag aacacagatc 420
tacggttaaga gctgctcctg gagagcctaa tttaaaatcg atgattgagg tgtgaatttg 480
aggcgcgatg gctgccgaaa acatggatcc tcgagaaaca gggacctgat agatttcagc 540
gaaaacatcc acggtaatat ccmaaattag taagaaggag atagggtctg aactcttgaa 600
tggtagagcc ggtatagcgc tctagcatgt cacaggcgat tgtttcttcg ctgatttttt 660
tatgttgatg ggtcataaat cacagatatt ataattggtta gagaatcttt ttttc 715

```

&lt;210&gt; 70

&lt;211&gt; 323

&lt;212&gt; DNA

&lt;213&gt; Chlamydia

&lt;400&gt; 70

```

gatccgaatt cggcaccgagc agaacgtaaa cagcacactt aaaccgtgta tgagggtttaa 60
cactgttttg caagcaaaca accattcctc tttccacatc gttcttacca atacctctga 120
ggagcaatcc aacattctct cctgcacgac cttctgggag ttcttttctg aacatttcaa 180
ccccagtaac aatcgtttct ttagtatctc taagaccgac caactgaact ttatcggaag 240
ctttaacaat tccacgctca atacgtccag ttactacagt tcctcgctcc gagatagaga 300

```

acacgtcctc aatgggcatt aag

323

&lt;210&gt; 71

&lt;211&gt; 715

&lt;212&gt; DNA

&lt;213&gt; Chlamydia

&lt;400&gt; 71

```

gatccgaatt cggcacgagg aaaaaaagat tctctaacca ttataatatc tgtgatttat 60
gacccatcaa cataaaaaaa tcagcgaaga aacaatcgcc tgtgacatgc tagagcggct 120
ataccggctc taccattcaa gagttccagc cctatctcct tcttactaat tttgggtatt 180
acgtggatgt tttcgctgaa atctatcagg tccctgtttc tcgaggatcc atgttttcgg 240
gcagcgcacg cgctcaaat tcacacctca atcatcgatt tttaaattagg ctctccagga 300
gcagctctta ccgtagatct gtgttctttc ctcccaatg ctacagcagc gatcatgttg 360
ggcatgtgcg gaggttaag atcccactac caaataggag attattttgt ccctgttgct 420
agcatccgaa aagatggaac atcagatgca tacttcccc cagaggtccc tgcattagct 480
aattttgtcg tacaaaaaat gatcaccaat attctcgaag ccaaaaacct cccttaccat 540
ataggcatca cccacacgac taacattcgg ttttgggagt ttaataaaga gttccgtcga 600
aaactatatg aaaataaagc tcaaaactgtc gagatggagt gtgccacctt atttgctgca 660
ggataccgaa ggaatcttcc tttaggagca cttttgctga tatcgatct acctt 715

```

&lt;210&gt; 72

&lt;211&gt; 641

&lt;212&gt; DNA

&lt;213&gt; Chlamydia

&lt;220&gt;

&lt;221&gt; unsure

&lt;222&gt; (550)

&lt;223&gt; n=A,T,C or G

&lt;221&gt; unsure

&lt;222&gt; (559)

&lt;223&gt; n=A,T,C or G

&lt;221&gt; unsure

&lt;222&gt; (575)

&lt;223&gt; n=A,T,C or G

&lt;221&gt; unsure

&lt;222&gt; (583)

&lt;223&gt; n=A,T,C or G

&lt;221&gt; unsure

&lt;222&gt; (634)

&lt;223&gt; n=A,T,C or G

&lt;221&gt; unsure

&lt;222&gt; (638)

&lt;223&gt; n=A,T,C or G

&lt;400&gt; 72

```

gatccgaatt cggcacgaga tctcctcgag ctcgatcaaa cccacacttg ggacaagtac 60
ctacaacata acggtccgct aaaaacttcc cttcttctc agaatacagc tgttcggtca 120
cctgattctc taccagtcg cgttcctgca agtttcgata gaaatcttgc acaatagcag 180
gatgataagc gttcgtagtt ctggaaaaga aatctacaga aattcccaat ttcttgaagg 240
tatctttatg aagcttatga tacatgtcga catattcttg ataccccatg cctgccaaact 300
ctgcattaag ggtaattgcg attccgtatt catcagaacc acaaataac aaaacctctt 360
tgctttagt tctctgaaaa cgcgcataaa catctgcagg caaataagca ccggtaatat 420
gtccaaaatg caaaggacca tttgcgtaag gcaacgcaga agtaataaga atacgggaag 480

```

```

attccactat ttcacgtcgc tccagttgta cagagaagga tcttttcttc tggatgttcc 540
gaaaccttgn tctcttcgnc tctctcctgt agcanacaaa tgnctctctc gacatctctt 600
tcagcgtatt cggactgatg ccctaaagat cccnggangt t 641

```

```

<210> 73
<211> 584
<212> DNA
<213> Chlamydia

```

```

<220>
<221> unsure
<222> (460)
<223> n=A,T,C or G
<221> unsure
<222> (523)
<223> n=A,T,C or G
<221> unsure
<222> (541)
<223> n=A,T,C or G
<221> unsure
<222> (546)
<223> n=A,T,C or G

```

```

<400> 73
gaattcggca cgagacattt ctagaatgga accggcaaca aacaaaaact ttgtatctga 60
agatgacttt aagcaatctt tagatagggg agattttttg gaatgggtct ttttatttgg 120
gacttattac ggaacgagta aggcggagat ttctagagtt ctgcaaaagg gtaagcactg 180
catagccgtg attgatgtac aaggagcttt ggctctgaag aagcaaatgc cggcagtcac 240
tatttttatt caagctccct ctcaagaaga acttgagcgc cgtttgaatg ctcgggattc 300
agagaaagat ttccagaaga aagaaagatt agagcatagc gctgtcgaaa ttgctgccgc 360
tagcgaattt gattatgttg tggttaatga tgatttgatt acagcatatc aagttttaag 420
aagtattttt atagctgaag aacataggat gagtcatggn tagaaaagat cgtttaacta 480
atgaaagact gaataagcta tttgatagcc cctttagttt ggntaattac gtaattaagc 540
nagctnagaa caaaattgct agaggagatg ttcgttcttc taac 584

```

```

<210> 74
<211> 465
<212> DNA
<213> Chlamydia

```

```

<400> 74
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taagaaatta ttttcgagtg aaagagctag gcgtaatcat tacagatagc catactactc 120
caatgcggcg tggagtactg ggtatcgggc tgtgttggtg tggattttct ccattacaca 180
actatatagg atcgctagat tgtttcgggc gtcccttaca gatgacgcaa agtaatcttg 240
tagatgcctt agcagttgcg gctgttggtt gtatgggaga ggggaatgag caaacaccgt 300
tagcggtgat agagcaggca cctaatatgg tctaccattc atatcctact tctcgagaag 360
agtattgttc tttgcgcata gatgaaacag aggacttata cggacctttt ttgcaagcgg 420
ttaccgtgga gtcaagaaaa gaaatgatgg aggtgtttat gaatt 465

```

```

<210> 75
<211> 545
<212> DNA
<213> Chlamydia

```

&lt;400&gt; 75

```

gaattcggca cgagatgaaa agttagcgctc acaggggatt ctcctaccaa agaattccga 60
aaagttttct tccaaaaacc tcttctctctc ttgatttagt atccctctgc aactacttta 120
ctatatgttc tgtgaaatat gcatagtctt caggattgga aaatccaaag tactcagtca 180
atccacgaat tttctctcta gcgatacgctg gaatttgact ctcataagaa tacaaagcag 240
ccactcctgc agctaaagaa tctcctgtac accaccgcat gaaagtagct actttcgctt 300
ttgctgcttc actaggctca tgagcctcta actcttctgg agtaactcct agagcaaaca 360
caaaactgctt ccacaaatca atatgattag ggtaaccggt ctcttcatcc atcaagttat 420
ctaacaataa cttacgcgcc tctaaatcat cgcaacgact atgaatcgca gataaatatt 480
taggaaaggc tttgatatgt aaataatagt ctttggcata cgcctgtaat tgctctttag 540
taagc 545

```

&lt;210&gt; 76

&lt;211&gt; 797

&lt;212&gt; DNA

&lt;213&gt; Chlamydia

&lt;220&gt;

&lt;221&gt; unsure

&lt;222&gt; (788)

&lt;223&gt; n=A,T,C or G

&lt;221&gt; unsure

&lt;222&gt; (789)

&lt;223&gt; n=A,T,C or G

&lt;400&gt; 76

```

gatccgaatt cggcaccgaga tacgctagat gcgataaatg cggataatga ggattatcct 60
aaaccagggtg acttcccacg atcttccctc tctagtacgc ctcctcatgc tccagtacct 120
caatctgaga ttcacaacgtc acctacctca acacagcttc catcaccta acttgtaaaa 180
actgtaataa aaagagcgcg cttcctttat gcaaaatcaa tttgaacaac tcttactga 240
attagggact caaatcaaca gccctcttac tcttgattcc aataatgcct gtatagttcg 300
ctttggatac aacaatgttg ctgtacaaat tgaagaggat ggtaattcag gatttttagt 360
tgctggagtc atgcttgga aacttccaga gaataccttt agacaaaaaa tttcaaagc 420
tgctttgtct atcaatggat ctccgcaatc taatatataa ggcaacttag gatacgggtg 480
aatctctaac caactctatc tctgtgatcg gcttaacatg acctatctaa atggagaaaa 540
gctcgcccgt tacttagttc ttttttcgca gcatgccaat atctggatgc aatctatctc 600
aaaaggagaa cttccagatt tacatgctct aggtatgtat cacctgtaaa ttatgccgtc 660
attatcccaa tcccagcgtc tcatccagca atcttccatt cgaaagattt ggaatcagat 720
agatacttct cctaagcatg ggggtatgctg taccggttat ttttctcttc atactcaaaa 780
aaagttgnng ggaata 797

```

&lt;210&gt; 77

&lt;211&gt; 399

&lt;212&gt; DNA

&lt;213&gt; Chlamydia

&lt;400&gt; 77

```

catatgcatc accatcacca tcacatgcc a cgcattcatt gaattgatat tcttgcaaag 60
aaaaagttaa aaataagtct gacatatatt tatggaatag gatcagctcg ttctgatgaa 120
atcattaaaa agttgaagtt agatcctgag gcaagagcct ctgaattaac tgaagaagaa 180
gtaggacgac tgaactctct gctacaatca gaatataccg tagaagggga tttgcgacgt 240
cgtgttcaat cgatatcaa aagattgatc gccatccatt cttatcgagg tcagagacat 300
agactttctt taccagtaag aggacaacgt acaaaaaacta attctcgtac tcgaaaagg 360
aaaagaaaaa cagtcgcagg taagaagaaa taagaattc 399

```

<210> 78  
 <211> 285  
 <212> DNA  
 <213> Chlamydia

<400> 78

```
atgcatcacc atcaccatca catgagtcaa aaaaataaaa actctgcttt tatgcatccc 60
gtgaatattt ccacagattt agcagttata gttggcaagg gacctatgcc cagaaccgaa 120
attgtaaaga aagtttgga atacattaaa aaacacaact gtcaggatca aaaaaataaa 180
cgtaatatcc ttcccgatgc gaatcttgcc aaagtctttg gctctagtga tccatcgac 240
atgttccaaa tgaccaaagc cctttccaaa catattgtaa aataa 285
```

<210> 79  
 <211> 950  
 <212> DNA  
 <213> Chlamydia

<400> 79

```
aaattaactc gagcacaat tacggcaatt gctgagcaaa agatgaagga catggatgtc 60
gttcttttag agtccgccga gagaatgggt gaagggactg cccgaagcat ggggtgtagat 120
gtagagtaat tagttaaaga gctgcataat tatgacaaag catggaaaac gcattcgtgg 180
tatccaagag acttacgatt tagctaagtc gtattctttg ggtgaagcga tagatatttt 240
aaaacagtgt cctactgtgc gtttcgatca aacgggttgat gtgtctgtta aattaggggat 300
cgatccaaga aagagtgtgc agcaaattcg tgggtcgggt tctttacctc acggtacagg 360
taaagttttg cgaatttttag tttttgctgc tggagataag gctgcagagg ctattgaagc 420
aggagcggac tttgttggtg gcgacgactt ggtagaaaaa atcaaagggt gatgggttga 480
cttcgatgtt gcggttgcca ctcccgatat gatgagagag gtccgaaagc taggaaaagt 540
tttaggtcca agaaacctta tgccatcgcc taaagccgga actgtaacaa cagatgtggt 600
taaaactatt gcggaactgc gaaaaggtaa aattgaattt aaagctgac gagctgggtg 660
atgcaacgtc ggagttgcga agctttcttt cgatagtgcg caaatcaaag aaaatggtga 720
agcgttggtg gcagccttag ttaaagetaa gcccgcact gctaaaggac aatatttagt 780
taatttcact atttctcga ccatggggcc aggggttacc gtggatacta gggagttgat 840
tgcgttataa ttctaagttt aaagaggaaa aatgaaagaa gagaaaaagt tgctgcttcg 900
cgagggtgaa gaaaagataa ccgcttctca aggttttatt ttgttgagat 950
```

<210> 80  
 <211> 395  
 <212> DNA  
 <213> Chlamydia

<400> 80

```
tttcaaggat tttgttttcc cgatcatctt actaaatgca gctccaacaa tcacatcatg 60
ggctggttta gcatctaagg caacagaagc tcctctgctg taataagtga attcttcaga 120
agtaggtgtt cctacttgcg atagcatcgt tcctagtcct gatatccaca gggtgttata 180
gctaacttca tcaaagcgag ctagattcat tttatcgttg agcaagcctt gtttgactgt 240
gaccattgac atttgagatc ccagaatcga gttcgcgatag aaatgattgt ctctaggtac 300
ataagcccat tgtctataag agtcaaattt ccagagcgct gagatcgctt cattttgtag 360
ttgatcagga tccagagtga gtgttctctg atatc 395
```

<210> 81  
 <211> 2085  
 <212> DNA  
 <213> Chlamydia

<400> 81

```

atttggcgaa ggagtttggg ctacggctat taataaatca ttcgtgttcg ctgcctccaa 60
gaccagattg tgtactttct tatgaagaat ctccatttga gcaaattgtg cgttggggag 120
agtctcagtt agaacaattt gctcaagtag gtttagatac aagttggcaa gttgttttcg 180
atccaggaat aggatttggg aagactcccg ttcagtcgat gttattgatg gatggagtaa 240
agcagtttaa acgtgtttta gagtgtcctg tattaatagg ccattctaga aaatcgtgtt 300
tgagtatgtt gggccgattt aatagtgaag atcgtgattg ggaaacgatc ggctgtttctg 360
tatctcttca tgatcgagga gttgattatc tacgtgtgca tcaggttgaa ggtaacagac 420
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&lt;210&gt; 82

&lt;211&gt; 405

&lt;212&gt; DNA

&lt;213&gt; Chlamydia

&lt;400&gt; 82

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&lt;210&gt; 83

&lt;211&gt; 379

&lt;212&gt; DNA

&lt;213&gt; Chlamydia

&lt;400&gt; 83

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&lt;210&gt; 84

&lt;211&gt; 715

&lt;212&gt; DNA

&lt;213&gt; Chlamydia

&lt;400&gt; 84

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&lt;210&gt; 85

&lt;211&gt; 476

&lt;212&gt; DNA

&lt;213&gt; Chlamydia

&lt;400&gt; 85

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&lt;210&gt; 86

&lt;211&gt; 1551

&lt;212&gt; DNA

&lt;213&gt; Chlamydia

&lt;400&gt; 86

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&lt;210&gt; 87

&lt;211&gt; 3031

&lt;212&gt; DNA

&lt;213&gt; Chlamydia

&lt;400&gt; 87

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&lt;210&gt; 88

&lt;211&gt; 976

&lt;212&gt; DNA

&lt;213&gt; Chlamydia

&lt;400&gt; 88

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&lt;210&gt; 89

&lt;211&gt; 94

&lt;212&gt; PRT

&lt;213&gt; Chlamydia

&lt;400&gt; 89

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 Lys Gly Pro Met Pro Arg Thr Glu Ile Val Lys Lys Val Trp Glu Tyr  
 35 40 45  
 Ile Lys Lys His Asn Cys Gln Asp Gln Lys Asn Lys Arg Asn Ile Leu  
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 <213> Chlamydia  
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 35 40 45  
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 50 55 60  
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 His Val Glu Gly Phe Ser Ile Asn Tyr Pro Ala Met Val Gln Arg Lys  
 85 90 95  
 Asp Ser Val Val Arg Ser Ile Arg Asp Gly Leu Asn Gly Leu Ile Arg  
 100 105 110  
 Ser Asn Lys Ile Thr Val Phe Ser Gly Arg Gly Ser Leu Ile Ser Ser  
 115 120 125  
 Thr Glu Val Lys Ile Leu Gly Glu Asn Pro Ser Val Ile Lys Ala His  
 130 135 140  
 Ser Ile Ile Leu Ala Thr Gly Ser Glu Pro Arg Ala Phe Pro Gly Ile  
 145 150 155 160  
 Pro Phe Ser Ala Glu Ser Pro Arg Ile Leu Cys Ser Thr Gly Val Leu

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Pro	Thr	Leu	Ala	Glu	Val	Trp	Ala	Glu	Ser	Ala	Leu	Leu	Ala	Val	Asp				
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465 .470

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<212> PRT  
<213> Chlamydia

<400> 91  
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Gly Ser Ala Arg Ser Asp Glu Ile Ile Lys Lys Leu Lys Leu Asp Pro  
35 40 45  
Glu Ala Arg Ala Ser Glu Leu Thr Glu Glu Glu Val Gly Arg Leu Asn  
50 55 60  
Ser Leu Leu Gln Ser Glu Tyr Thr Val Glu Gly Asp Leu Arg Arg Arg  
65 70 75 80  
Val Gln Ser Asp Ile Lys Arg Leu Ile Ala Ile His Ser Tyr Arg Gly  
85 90 95  
Gln Arg His Arg Leu Ser Leu Pro Val Arg Gly Gln Arg Thr Lys Thr  
100 105 110  
Asn Ser Arg Thr Arg Lys Gly Lys Arg Lys Thr Val Ala Gly Lys Lys  
115 120 125  
Lys

<210> 92  
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<212> PRT  
<213> Chlamydia

<400> 92  
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Ser Leu Ala Asp Phe Arg Gly Lys Tyr Val Val Leu Phe Phe Tyr Pro  
35 40 45  
Lys Asp Phe Thr Tyr Val Cys Pro Thr Glu Leu His Ala Phe Gln Asp

50	55	60
Arg Leu Val Asp Phe Glu Glu His Gly Ala Val Val Leu Gly Cys Ser		
65	70	75 80
Val Asp Asp Ile Glu Thr His Ser Arg Trp Leu Thr Val Ala Arg Asp		
	85	90 95
Ala Gly Gly Ile Glu Gly Thr Glu Tyr Pro Leu Leu Ala Asp Pro Ser		
	100	105 110
Phe Lys Ile Ser Glu Ala Phe Gly Val Leu Asn Pro Glu Gly Ser Leu		
	115	120 125
Ala Leu Arg Ala Thr Phe Leu Ile Asp Lys His Gly Val Ile Arg His		
	130	135 140
Ala Val Ile Asn Asp Leu Pro Leu Gly Arg Ser Ile Asp Glu Glu Leu		
	145	150 155 160
Arg Ile Leu Asp Ser Leu Ile Phe Phe Glu Asn His Gly Met Val Cys		
	165	170 175
Pro Ala Asn Trp Arg Ser Gly Glu Arg Gly Met Val Pro Ser Glu Glu		
	180	185 190
Gly Leu Lys Glu Tyr Phe Gln Thr Met Asp		
	195	200

<210> 93  
 <211> 19  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> made in a lab

<400> 93  
 Glu Asn Ser Leu Gln Asp Pro Thr Asn Lys Arg Asn Ile Asn Pro Asp  
 1 5 10 15  
 Asp Lys Leu

<210> 94  
 <211> 20  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Made in a lab

<400> 94  
 Asp Pro Thr Asn Lys Arg Asn Ile Asn Pro Asp Asp Lys Leu Ala Lys

<400> 98

Asn Lys Arg Asn Ile Asn Pro Asp Asp Lys Leu Ala Lys Val Phe Gly  
 1 5 10 15  
 Thr Glu Lys Pro  
 20

<210> 99  
 <211> 16  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Made in a lab

<400> 99  
 Asn Lys Arg Asn Ile Leu Pro Asp Ala Asn Leu Ala Lys Val Phe Gly  
 1 5 10 15

<210> 100  
 <211> 15  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Made in a lab

<400> 100  
 Lys Met Trp Asp Tyr Ile Lys Glu Asn Ser Leu Gln Asp Pro Thr  
 1 5 10 15

<210> 101  
 <211> 20  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Made in a lab

<400> 101  
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 1 5 10 15  
 Gln Asp Gln Lys  
 20

<210> 102  
 <211> 20  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Made in a lab

<400> 102  
 Lys Val Trp Glu Tyr Ile Lys Lys His Asn Cys Gln Asp Gln Lys Asn  
 1 5 10 15  
 Lys Arg Asn Ile



20

<210> 103  
 <211> 15  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Made in a lab

<400> 103  
 Lys Val Trp Glu Tyr Ile Lys Lys His Asn Cys Gln Asp Gln Lys  
 1 5 10 15

<210> 104  
 <211> 20  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Made in a lab

<400> 104  
 Ala Glu Leu Thr Glu Glu Glu Val Gly Arg Leu Asn Ala Leu Leu Gln  
 1 5 10 15  
 Ser Asp Tyr Val  
 20

<210> 105  
 <211> 21  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Made in a lab

<400> 105  
 Leu Gln Ser Asp Tyr Val Val Glu Gly Asp Leu Arg Arg Arg Val Gln  
 1 5 10 15  
 Ser Asp Ile Lys Arg  
 20

<210> 106  
 <211> 20  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Made in a lab

<400> 106  
 Met Pro Arg Ile Ile Gly Ile Asp Ile Pro Ala Lys Lys Lys Leu Lys  
 1 5 10 15  
 Ile Ser Leu Thr  
 20

<210> 107  
 <211> 20  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Made in a lab

<400> 107  
 Ala Glu Leu Thr Glu Glu Val Gly Arg Leu Asn Ala Leu Leu Gln  
 1 5 10 15  
 Ser Asp Tyr Val  
 20

<210> 108  
 <211> 20  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Made in a lab

<400> 108  
 Leu Asn Ala Leu Leu Gln Ser Asp Tyr Val Val Glu Gly Asp Leu Arg  
 1 5 10 15  
 Arg Arg Val Gln  
 20

<210> 109  
 <211> 20  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Made in a lab

<400> 109  
 Leu Asn Ser Leu Leu Gln Ser Glu Tyr Thr Val Glu Gly Asp Leu Arg  
 1 5 10 15  
 Arg Arg Val Gln  
 20

<210> 110  
 <211> 1461  
 <212> DNA  
 <213> Chlamydia

<400> 110  
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 ggcactatca ggacccaaga gtttcagatt atgacctccc acgtgctagc gactatgatt 120  
 tgcctagaag cccatatacct actccacctt tgccttctag atatcagcta cagaatatgg 180  
 atgtagaagc agggttccgt gaggcagttt atgcttcttt tgtagcagga atgtacaatt 240  
 atgtagtgc acagccgcaa gagcgtattc ccaatagtca gcaggtggaa gggattctgc 300  
 gtgatatgct taccaacggg tcacagacat ttagcaacct gatgcagcgt tgggatagag 360

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aagtcgatag ggaataaact ggtatctacc ataggtttgt atcaaaaaac taagcccacc 420
aagaagaaat tctctttggt gggcttcttt ttttattcaa aaaagaaagc cctcttcaag 480
attatctcgt gccgctcgtg ccgaattcgg cagcagcggc acgaggagct gtaagtaagt 540
attgccaaga gttggaagaa aaaatattag atttgtgtaa gcgtcatgcc gcaacaattt 600
gctccattga ggaggatgct aaacaagaaa ttcgtcatca gacagaaagg tttaaacagc 660
ggttgcaaca aaatcagaac acttgcagtc aattaacagc agagtttgtt aaattgagat 720
ctgagaataa ggcattatcg gagcggctgc aggtgcaggc atcccgctcg aaaaaataat 780
taaagactcc tcagatattg catctgagag ttaggggttc cttttgctta cggcgcttta 840
gttctgcatg ttgctgattt atagtgattt gcgagtaaag cgcggttctg atacagtttt 900
tccgctttaa aaataaaaag gtggaaaaat gagtactact attagcggag acgcttcttc 960
tttaccgttg ccaacagctt cctgcgtaga gacaaaatct acttcgtctt caacaaaagg 1020
gaataacttg tccaaaattt tggatatagc tttagctatc gtaggcgctt tagttgttgt 1080
cgctggggta ttagcttttg ttttgtgcgc tagcaatgct atatttactg taataggtat 1140
tcctgcatta attattggat ctgcttgtgt ggggtgcggga atatctcgtc ttatgtatcg 1200
atcctcttat gctagcttag aagcaaaaaa tgttttggtc gagcaacgtt tgcgtaatct 1260
ttcagaagag aaggacgctt tggcctccgt ctctttcatt aataagatgt ttctgcgagg 1320
tcttacggac gatctccaag ctttgggaag taaggtaatg gaatttgaga ttgattgttt 1380
ggacagatta gagaaaaatg agcaagcttt attgtccgat gtgcgcttag ttttatctag 1440
ctacacaaga tggttggata g
1461

```

&lt;210&gt; 111

&lt;211&gt; 267

&lt;212&gt; DNA

&lt;213&gt; Chlamydia

&lt;400&gt; 111

```

gtcctcttct tattatagca gaagacattg aaggcgaagc tttagctact ttggctcgtga 60
acagaattcg tygaggatcc cgggtttgct cagttaaagc tccaggcttt ggagatagaa 120
gaaaagctat gttggaagac atcgtatctt taactggcgg tcaactcatt agcgaagagt 180
tgggcatgaa attagaaaac gctaacttag ctatgttagg taaagctaaa aaagttatcg 240
tttctaaaaga agacacgacc atcgtcg
267

```

&lt;210&gt; 112

&lt;211&gt; 698

&lt;212&gt; DNA

&lt;213&gt; Chlamydia

&lt;400&gt; 112

```

tgataagcaa gcaaccgctc aactagcagc tctaactatt aaaaaaatcc tctgttttga 60
tgaaaattcc tacgagaagg agctggcatg cttagaaaag aaacgcagta gcgtacaaaa 120
agatctgagc caactgaaaa aatacacagt tctctacatc aagaagctgc tcgaaaccta 180
cagacaactc gggcatcgaa agacaaaaat tgcaaaattt gatgacctac ctaccgagag 240
agtctccgct cataagaaag caaaagaact cgctgcgctc gatcaagaag agaacttcta 300
aaacgtgact cggcccttga gatccttaaa ctctcgggcc aaaaagacta cagtcttctc 360
gagaagaaaa acggtgttag aaaatacgcg cgctaagact ttctctaaca atgactcaaa 420
aagctgtaaa cgtatacggt taccgctctt ccataatttc taggctgact ttcacattat 480
ctcgacttgc tacggaaacc aataaaagtac ggatagcctt aatagtgcgt ccttctttac 540
cgataatttt accgatatct cccttagcaa cagtcaattc gtagataatc gtattggttc 600
cctgcacctc tttcagatgc acttctctct gcttatcaac aagatttttt acaatgtacg 660
ctaaaaactc tttcatgcga agcaaatcct acacaagc
698

```

&lt;210&gt; 113

&lt;211&gt; 1142

&lt;212&gt; DNA

&lt;213&gt; Chlamydia

&lt;400&gt; 113

```

ctcttcaaag attgtgagtt tatgtgaagg cgctgtcgct gatgcaagaa tgtgcaaagc 60
agagttgata aaaaaagaag cggatgctta tttgttttgt gagaaaagcg ggatatatct 120
aacgaaaaaa gaaggtatth tgattccttc tgcagggatt gatgaatcga atacggacca 180
gcctttttgt ttatatccta aagatatttt gggatcgtgt aatcgcatcg gagaatggtt 240
aagaaattat tttcgagtga aagagctagg cgtaatcatt acagatagcc atactactcc 300
aatgcggcgt ggagtactgg gtatcgggct gtgttggtat ggattttctc cattacacaa 360
ctatatagga tcgctagatt gtttcggtcg tcccttacag atgacgcaaa gtaatcttgt 420
agatgcctta gcagttgcgg ctgttggttg tatgggagag gggaatgagc aaacaccgtt 480
agcggtgata gagcaggcac ctaatatggt ctaccattca taccctactt ctcgagaaga 540
gtattgttct ttgcgcatag atgaaacaga ggacttatac ggaccttttt tgcaagcggc 600
tacgtggagt caagaaaaga aatgatggag gtgtttatga attttttaga tcagttagat 660
ttaattattc aaaataagca tatgctagaa cacacgtttt atgtgaaatg gtcgaagggg 720
gagcttacta aagagcaatt acaggcgat gccaaagact attatttaca tatcaaagcc 780
tttcctaaat atttatctgc gattcatagt cgttgcgatg atttagaggc gcgtaagtta 840
ttgttagata acttgatgga tgaagagaac ggttacccta atcatattga tttgtggaag 900
cagtttgtgt ttgctctagg agttactcca gaagagttag aggctcatga gcctagtga 960
gcagcaaaag cgaaagtagc tactttcatg cggtggtgta caggagattc tttagctgca 1020
ggagtggctg ctttgtattc ttatgagagt caaattccac gtatcgctag agagaaaatt 1080
cgtggattga ctgagtactt tggattttcc aatcctgaag actatgcata tttcacagaa 1140
ca

```

1142

&lt;210&gt; 114

&lt;211&gt; 976

&lt;212&gt; DNA

&lt;213&gt; Chlamydia

&lt;400&gt; 114

```

aggtggatgg ggcgcctgtc caagatgtgc tcgctactct atatggaagc aatcacaaaag 60
ggactgcagc tgaagagtcg gctgctttaa gaacactatt ttctcgcatg gcctcttttag 120
ggcacaaaag accttctggg cgcactactt taaagattcg tcgtcctttt ggtactacga 180
gagaagttcg tgtgaaatgg cgttatgttc ctgaagggtg aggagatttg gctaccatag 240
ctccttctat cagggctcca cagttacaga aatcgatgag aagctttttc cctaagaaaag 300
atgatgcgtt tcatcggctt agttcgctat tctactctcc aatggttccg catttttggg 360
cagatgcttg caatcattat gcaacgagtg gtttgaaaag cgggtacaat attggggagta 420
ccgatgggtt tctcctgtc attgggcctg ttatatggga gtcggagggt cttttccgcg 480
cttatatttc ttcggtgact gatggggatg gtaagagcca taaagtagga tttctaagaa 540
ttcctacata tagttggcag gacatggaag attttgatcc ttcaggaccg cctccttggg 600
aagaatttgc taagattatt caagtatttt cttctaatac agaagctttg attatcgacc 660
aaacgaacaa cccaggtggg agtgcctttt atctttatgc actgctttcc atgttgacag 720
accgtccttt agaacttcc aaacatagaa tgattctgac tcaggatgaa gtggttgatg 780
ctttagattg gtttaaccctg ttggaaaacg tagacacaaa cgtggagtct cgccttgctc 840
tgggagacaa catggaagga tatactgtgg atctacaggt tgccgagtat ttaaaaagct 900
ttggacgtca agtattgaat tgttggagta aaggggatat cgagttatca acacctattc 960
ctcttttttg ttttga

```

976

&lt;210&gt; 115

&lt;211&gt; 995

&lt;212&gt; DNA

&lt;213&gt; Chlamydia

&lt;400&gt; 115

```

ttatcctaga aatttgggtg tcaatatgag cgaaaaaaga aagtctaaca aaattattgg 60
tatcgaccta gggacgacca actcttgcgt ctctgttatg gaaggtggcc aacctaaagt 120

```

```

tattgcctct tctgaaggaa ctctgtactac tctttctatc gttgctttta aaggtggcga 180
aactcttggt ggaattcctg caaaacgtca ggcagtaacc aatcctgaaa aaacattggc 240
ttctactaag cgattcatcg gtagaaaatt ctctgaagtc gaatctgaaa ttaaaacagt 300
ccctacaaaa gttgctccta actcgaaagg agatgcggtc tttgatgtgg aacaaaaact 360
gtacactcca gaagaaatcg gcgtcagat cctcatgaag atgaaggaaa ctgctgaggc 420
ttatctcgga gaacacagtāa cggaaagcagt cattaccgta ccagcttact ttaacgattc 480
tcaaagagct tctacaaaag atgctggacg tatcgcagga ttagatgtta aacgcattat 540
tcctgaacca acagcggccg ctcttgctta tggattgat aaggaaggag ataaaaaat 600
cgccgtcttc gacttaggag gaggaacttt cgatatttct atcttgaaa tcggtgacgg 660
agtttttgaa gttctctcaa ccaacgggga tactcacttg ggaggagacg acttcgacgg 720
agtcatcatc aactggatgc ttgatgaatt caaaaaacaa gaaggcattg atctaagcaa 780
agataacatg gctttgcaaa gattgaaaga tgctgctgaa aaagcaaaaa tagaattgtc 840
tggtgtatcg tctactgaaa tcaatcagcc attcatcact atcgacgcta atggacctaa 900
acatttggtt ttaactctaa ctgcgcgtca attcgaacac ctagcttctt ctctcattga 960
gcgaacccaa caaccttggt ctcaggcttt aaaag 995

```

&lt;210&gt; 116

&lt;211&gt; 437

&lt;212&gt; DNA

&lt;213&gt; Chlamydia

&lt;400&gt; 116

```

gtcacagcta aaggcgggtgg gctttatact gataagaatc tttcgattac taacatcaca 60
ggaattatcg aaattgcaaa taacaaagcg acagatgttg gaggtgggtg ttacgtaaaa 120
ggaaccctta cttgtaaaaa ctctcaccgt ctacaatttt tgaaaaactc ttccgataaa 180
caaggtggag gaatctacgg agaagacaac atcaccctat ctaatttgac aggggaagact 240
ctattccaag agaatactgc caaaaaagag ggcgggtggac tcttcataaa aggtacagat 300
aaagctctta caatgacagg actggatagt ttctgtttta ttaataacac atcagaaaaa 360
catggtgggt gagcctttgt taccaaagaa atctctcaga cttacacctc tgatgtggaa 420
acaattccag gaatcac 437

```

&lt;210&gt; 117

&lt;211&gt; 446

&lt;212&gt; DNA

&lt;213&gt; Chlamydia

&lt;400&gt; 117

```

aagtttacct agaccaaact gaagatgacg aaggaaaagt tgttttatcc agagaaaaag 60
caacaagaca acgacaatgg gaatacatte ttgctcactg cgaggaaggt tctattgtta 120
agggacaaat taccgaaaa gttaagggtg gtttgatcgt agatattggg atggaagcct 180
tccttcagg atcccaata gacaataaga agatcaagaa cttagatgat tacgtaggca 240
aggtttgtga gttcaaaatt ctcaaaatca acgtggatcg tcggaacggt gttgtatcta 300
gaagagaact tctcgaagct gaacgcattt ctaagaaagc agagttgatc gagcaaatca 360
ctatcggtga acgtcgcaaa ggtatcgta agaatatcac agatttcgga gtattcttgg 420
atcttgatgg cattgacggc ctactc 446

```

&lt;210&gt; 118

&lt;211&gt; 951

&lt;212&gt; DNA

&lt;213&gt; Chlamydia

&lt;400&gt; 118

```

agtattgcga aatattactg tgagaagcaa tgctgagacg ggttctagta aaagtgaggg 60
gagagctgtc agaagggatc gtcaggaag cgagacaacg tgtggctgat ttattaggaa 120
gattccctct ttatctgaa atcgatctgg aaacgctagt ttagtgggag actctatgcc 180

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```

tgaaggggaa atgatgcata agttgcaaga tgtcatagat agaaagtgtg tggattctcg 240
tcgtattttc ttctccgaac ctgtaacgga gaaaagtgct gcagaagcca tcaaaaagct 300
ttggtatttg gaactcacca atcctgggca gccaatgtga tttgtcatta atagccctgg 360
agggctctgt gatgctgggt ttgctgtttg ggaccaaatt aaaatgatct cttctccttt 420
gactacagtt gttacaggtt tagcagcatc tatgggatct gtattgagtt tgtgtgctgt 480
tccaggaaga cgttttgcta cgccatcatc gcgcattatg attcaccagc cttctatttg 540
aggaaccatt actggtcaag ccacggactt ggatattcat gctcgtgaaa ttttaaaaac 600
aaaagcacgc attattgatg tgtatgtcga ggcaactgga caatctccag aggtgataga 660
gaaagctatc gatcgagata tgtggatgag tgcaaatgaa gcaatggagt ttggactgtt 720
agatgggatt ctcttctctt ttaacgactt gtagatatct tttatattct ggagcaggaa 780
acagtttcat tttgggagaa tegatgcctt ctcttgagga tgttctgttt ttatgccagg 840
aagagatggg tgatgggttt ttatgtgtag agtcttctga aatagcagat gctaaactca 900
ctgtttttta tagtgatgga tetatcgctg ctatgtgcgg gaatgggttg c 951

```

&lt;210&gt; 119

&lt;211&gt; 953

&lt;212&gt; DNA

&lt;213&gt; Chlamydia

&lt;400&gt; 119

```

atatcaaagt tgggcaaagt acagagccgc tcaaggacca gcaaataatc cttgggacaa 60
catcaacacc tgtcgcagcc aaaatgacag cttctgatgg aatatcttta acagtctcca 120
ataatccatc aaccaatgct tctattacaa ttggtttgga tgcggaaaaa gcttaccagc 180
ttattctaga aaagtggga gatcaaatc ttggtggaat tgctgatact attgttgata 240
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cttttaacaa ctttccaatc actaataaaa ttcaatgcaa cgggttatte actcccagga 360
acattgaaac tttattagga ggaactgaaa taggaaaatt cacagtcaca cccaaaagct 420
ctgggagcat gttcttagtc tcagcagata ttattgcac aagaatggaa ggcggttg 480
ttctagcttt ggtacgagaa ggtgattcta agccctacgc gattagttat ggatactcat 540
caggcgttcc taatttatgt agtctaagaa ccagaattat taatacagga ttgactccga 600
caacgtattc attacgtgta ggcggtttag aaagcgggtg ggtatgggtt aatgcccttt 660
ctaattggca tgatatttta ggaataacaa atacttctaa tgtatctttt ttggaggtaa 720
tacctcaaac aaacgcttaa acaattttta ttggattttt cttataggtt ttatataggt 780
agaaaaaagt tcgaattacg gggtttgta tgcaaaaata aagcaaagtg agggacgatt 840
ttattaaaat tgtaaaagat tcctgggtatc ggtctgcgat tccgactcgt ccaacatcaa 900
tacaacctat taatttcccc tcgtcaaaaa taaggttatc aagtgagaaa tca 953

```

&lt;210&gt; 120

&lt;211&gt; 897

&lt;212&gt; DNA

&lt;213&gt; Chlamydia

&lt;400&gt; 120

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atggcttcta tatgcggacg tttagggctc ggtacagggg atgctctaaa agcttttttt 60
acacagccca gcaataaaat ggcaagggtg gtaataaga cgaagggaat ggataagact 120
gttaaggctc ccaagtctgc tgccgaattg accgcaata ttttgaaca agctggaggc 180
gcgggctctt ccgcacacat tacagcttcc caagtgtcca aaggattagg ggatgcgaga 240
actgttctcg ctttagggaa tgcccttaac ggagcgttgc caggaacagt tcaaagtgcg 300
caaagcttct tctcttacat gaaagctgct agtcagaaac cgcaagaagg ggaatgaggg 360
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atcggaggaa ttacctacct cgcgacatcc ggagctatcc gtccgattct gtttgtcaac 480
aaaaatgctg cgcaaccgtt tctttcttcc caaattaaag caaatatggg atcttctgtt 540
agctatatta tggcggttaa ccatgcagcg tttgtgggtg gttctggact cgctatcagt 600
gcggaaagag cagattgcga agcccgtgc gctcgtattg cgagagaaga gtcgtcactc 660

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gaattgtcgg gagaggaaaa tgcttgcgag aggagagtcg ctggagagaa agccaagacg      720
ttcacgcgca tcaagtatgc actcctcact atgctcgaga agtttttggga atgcgttgcc      780
gacgttttca aattgggtgcc gttgcctatt acaatgggta ttcgtgcaat tgtggctgcg      840
ggatgtacgt tcacttctgc agttattgga ttgtggactt tctgcgccag agcataa      897

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<210> 121
<211> 298
<212> PRT
<213> Chlamydia

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<400> 121
Met Ala Ser Ile Cys Gly Arg Leu Gly Ser Gly Thr Gly Asn Ala Leu
1      5      10      15
Lys Ala Phe Phe Thr Gln Pro Ser Asn Lys Met Ala Arg Val Val Asn
20      25      30
Lys Thr Lys Gly Met Asp Lys Thr Val Lys Val Ala Lys Ser Ala Ala
35      40      45
Glu Leu Thr Ala Asn Ile Leu Glu Gln Ala Gly Gly Ala Gly Ser Ser
50      55      60
Ala His Ile Thr Ala Ser Gln Val Ser Lys Gly Leu Gly Asp Ala Arg
65      70      75      80
Thr Val Leu Ala Leu Gly Asn Ala Phe Asn Gly Ala Leu Pro Gly Thr
85      90      95
Val Gln Ser Ala Gln Ser Phe Phe Ser Tyr Met Lys Ala Ala Ser Gln
100     105     110
Lys Pro Gln Glu Gly Asp Glu Gly Leu Val Ala Asp Leu Cys Val Ser
115     120     125
His Lys Arg Arg Ala Ala Ala Val Cys Ser Phe Ile Gly Gly Ile
130     135     140
Thr Tyr Leu Ala Thr Phe Gly Ala Ile Arg Pro Ile Leu Phe Val Asn
145     150     155     160
Lys Met Leu Ala Gln Pro Phe Leu Ser Ser Gln Ile Lys Ala Asn Met
165     170     175
Gly Ser Ser Val Ser Tyr Ile Met Ala Ala Asn His Ala Ala Phe Val
180     185     190
Val Gly Ser Gly Leu Ala Ile Ser Ala Glu Arg Ala Asp Cys Glu Ala
195     200     205
Arg Cys Ala Arg Ile Ala Arg Glu Glu Ser Ser Leu Glu Leu Ser Gly
210     215     220
Glu Glu Asn Ala Cys Glu Arg Arg Val Ala Gly Glu Lys Ala Lys Thr
225     230     235     240
Phe Thr Arg Ile Lys Tyr Ala Leu Leu Thr Met Leu Glu Lys Phe Leu
245     250     255
Glu Cys Val Ala Asp Val Phe Lys Leu Val Pro Leu Pro Ile Thr Met
260     265     270
Gly Ile Arg Ala Ile Val Ala Ala Gly Cys Thr Phe Thr Ser Ala Val
275     280     285
Ile Gly Leu Trp Thr Phe Cys Ala Arg Ala
290     295

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<210> 122
<211> 897
<212> DNA
<213> Chlamydia

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&lt;400&gt; 122

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gttaaggtcg	ccaagtctgc	tgccgaattg	accgcaaata	ttttggaaca	agctggaggc	180
gcgggctctt	ccgcacacat	tacagcttcc	caagtgtcca	aaggattagg	ggatacgaga	240
actgttgctg	ctttagggaa	tgcctttaac	ggagcgttgc	caggaacagt	tcaaagtgcg	300
caaagcttct	tctctcacat	gaaagctgct	agtcagaaaa	cgcaagaagg	ggatgagggg	360
ctcacagcag	atctttgtgt	gtctcataag	cgcagagcgg	ctgcggtgtg	ctgtggcttc	420
atcggaggaa	ttacctacct	cgcgacattc	ggagttatcc	gtccgattct	gtttgtcaac	480
aaaatgctgg	tgaaccctgt	tctttcttcc	caaactaaag	caaatatggg	atcttctgtt	540
agctatatta	tggcggctaa	ccatgcagcg	tctgtgggtg	gtgctggact	cgctatcagt	600
gcggaaagag	cagattgcga	agcccgtctg	gctcgtattg	cgagagaaga	gtcgttactc	660
gaagtgtcgg	gagaggaaaa	tgccttgcgag	aagagagtcg	ctggagagaa	agccaagacg	720
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gacgttttca	aattgggtgcc	gctgcctatt	acaatgggta	ttcgtgcgat	tgtggctgct	840
ggatgtacgt	tcacttctgc	aattattgga	ttgtgcactt	tctgcgccag	agcataa	897

&lt;210&gt; 123

&lt;211&gt; 298

&lt;212&gt; PRT

&lt;213&gt; Chlamydia

&lt;400&gt; 123

Met	Ala	Ser	Ile	Cys	Gly	Arg	Leu	Gly	Ser	Gly	Thr	Gly	Asn	Ala	Leu	
1				5				10					15			
Lys	Ala	Phe	Phe	Thr	Gln	Pro	Ser	Asn	Lys	Met	Ala	Arg	Val	Val	Asn	
			20					25					30			
Lys	Thr	Lys	Gly	Met	Asp	Lys	Thr	Val	Lys	Val	Ala	Lys	Ser	Ala	Ala	
		35				40						45				
Glu	Leu	Thr	Ala	Asn	Ile	Leu	Glu	Gln	Ala	Gly	Gly	Ala	Gly	Ser	Ser	
	50					55					60					
Ala	His	Ile	Thr	Ala	Ser	Gln	Val	Ser	Lys	Gly	Leu	Gly	Asp	Thr	Arg	
65					70					75					80	
Thr	Val	Val	Ala	Leu	Gly	Asn	Ala	Phe	Asn	Gly	Ala	Leu	Pro	Gly	Thr	
				85					90						95	
Val	Gln	Ser	Ala	Gln	Ser	Phe	Phe	Ser	His	Met	Lys	Ala	Ala	Ser	Gln	
			100					105					110			
Lys	Thr	Gln	Glu	Gly	Asp	Glu	Gly	Leu	Thr	Ala	Asp	Leu	Cys	Val	Ser	
		115				120						125				
His	Lys	Arg	Arg	Ala	Ala	Ala	Ala	Val	Cys	Gly	Phe	Ile	Gly	Gly	Ile	
	130					135					140					
Thr	Tyr	Leu	Ala	Thr	Phe	Gly	Val	Ile	Arg	Pro	Ile	Leu	Phe	Val	Asn	
145					150					155					160	
Lys	Met	Leu	Val	Asn	Pro	Phe	Leu	Ser	Ser	Gln	Thr	Lys	Ala	Asn	Met	
			165					170						175		
Gly	Ser	Ser	Val	Ser	Tyr	Ile	Met	Ala	Ala	Asn	His	Ala	Ala	Ser	Val	
			180					185					190			
Val	Gly	Ala	Gly	Leu	Ala	Ile	Ser	Ala	Glu	Arg	Ala	Asp	Cys	Glu	Ala	
	195					200						205				
Arg	Cys	Ala	Arg	Ile	Ala	Arg	Glu	Glu	Ser	Leu	Leu	Glu	Val	Ser	Gly	
	210					215					220					
Glu	Glu	Asn	Ala	Cys	Glu	Lys	Arg	Val	Ala	Gly	Glu	Lys	Ala	Lys	Thr	
225					230					235					240	
Phe	Thr	Arg	Ile	Lys	Tyr	Ala	Leu	Leu	Thr	Met	Leu	Glu	Lys	Phe	Leu	
				245					250						255	



Glu Cys Val Ala Asp Val Phe Lys Leu Val Pro Leu Pro Ile Thr Met  
 260 265 270  
 Gly Ile Arg Ala Ile Val Ala Ala Gly Cys Thr Phe Thr Ser Ala Ile  
 275 280 285  
 Ile Gly Leu Cys Thr Phe Cys Ala Arg Ala  
 290 295

<210> 124  
 <211> 897  
 <212> DNA  
 <213> Chlamydia

<400> 124  
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 attaaggttg ccaagtctgc tgccgaattg accgcaaata ttttggaaaca agctggaggc 180  
 gcgggctctt ccgcacacat tacagcttcc caagtgtcca aaggattagg ggatgcgaga 240  
 actgttctgc ctttagggaa tgcttttaac ggagcgttgc caggaacagt tcaaagtgcg 300  
 caaagcttct tctctcacat gaaagctgct agtcagaaaa cgcaagaagg ggatgagggg 360  
 ctcacagcag atctttgtgt gtctcataag cgcagagcgg ctgctggtgt ctgtagcatc 420  
 atcggaggaa ttacctacct cgcgacattc ggagctatcc gtccgattct gtttgtcaac 480  
 aaaatgctgg caaaaccgtt tctttcttcc caaactaaag caaatatggg atcttctgtt 540  
 agctatatta tggcggctaa ccattgcagcg tctgtggtgg gtgctggact cgctatcagt 600  
 gcggaaagag cagattgcga agcccgtgc gctcgtattg cgagagaaga gtcgttactc 660  
 gaagtgccgg gagaggaaaa tgcttgcgag aagaaagtcg ctggagagaa agccaagacg 720  
 ttcacgcgca tcaagtatgc actcctcact atgctcgaga agtttttgga atgcgttgcc 780  
 gacgttttca aattggtgcc gctgcctatt acaatgggta ttcgtgcat tgtggctgct 840  
 ggatgtacgt tcacttctgc aattattgga ttgtgcactt tctgcgccag agcataa 897

<210> 125  
 <211> 298  
 <212> PRT  
 <213> Chlamydia

<400> 125  
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 1 5 10 15  
 Lys Ala Phe Phe Thr Gln Pro Asn Asn Lys Met Ala Arg Val Val Asn  
 20 25 30  
 Lys Thr Lys Gly Met Asp Lys Thr Ile Lys Val Ala Lys Ser Ala Ala  
 35 40 45  
 Glu Leu Thr Ala Asn Ile Leu Glu Gln Ala Gly Gly Ala Gly Ser Ser  
 50 55 60  
 Ala His Ile Thr Ala Ser Gln Val Ser Lys Gly Leu Gly Asp Ala Arg  
 65 70 75 80  
 Thr Val Val Ala Leu Gly Asn Ala Phe Asn Gly Ala Leu Pro Gly Thr  
 85 90 95  
 Val Gln Ser Ala Gln Ser Phe Phe Ser His Met Lys Ala Ala Ser Gln  
 100 105 110  
 Lys Thr Gln Glu Gly Asp Glu Gly Leu Thr Ala Asp Leu Cys Val Ser  
 115 120 125  
 His Lys Arg Arg Ala Ala Ala Val Cys Ser Ile Ile Gly Gly Ile  
 130 135 140  
 Thr Tyr Leu Ala Thr Phe Gly Ala Ile Arg Pro Ile Leu Phe Val Asn  
 145 150 155 160

Lys Met Leu Ala Lys Pro Phe Leu Ser Ser Gln Thr Lys Ala Asn Met  
 165 170 175  
 Gly Ser Ser Val Ser Tyr Ile Met Ala Ala Asn His Ala Ala Ser Val  
 180 185 190  
 Val Gly Ala Gly Leu Ala Ile Ser Ala Glu Arg Ala Asp Cys Glu Ala  
 195 200 205  
 Arg Cys Ala Arg Ile Ala Arg Glu Glu Ser Leu Leu Glu Val Pro Gly  
 210 215 220  
 Glu Glu Asn Ala Cys Glu Lys Lys Val Ala Gly Glu Lys Ala Lys Thr  
 225 230 235 240  
 Phe Thr Arg Ile Lys Tyr Ala Leu Leu Thr Met Leu Glu Lys Phe Leu  
 245 250 255  
 Glu Cys Val Ala Asp Val Phe Lys Leu Val Pro Leu Pro Ile Thr Met  
 260 265 270  
 Gly Ile Arg Ala Ile Val Ala Ala Gly Cys Thr Phe Thr Ser Ala Ile  
 275 280 285  
 Ile Gly Leu Cys Thr Phe Cys Ala Arg Ala  
 290 295

<210> 126  
 <211> 897  
 <212> DNA  
 <213> Chlamydia

<400> 126

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gcgggctctt	ccgcacacat	tacagcttcc	caagtgtcca	aaggattagg	ggatgcgaga	240
actgttgtcg	ctttagggaa	tgctttaaac	ggagcgttgc	caggaacagt	tcaaagtgcg	300
caaagcttct	tctctcacat	gaaagctgct	agtcagaaaa	cgcaagaagg	ggatgagggg	360
ctcacagcag	atctttgtgt	gtctcataag	cgcagagcgg	ctgcggctgt	ctgtagcatt	420
atcggaggaa	ttacctacct	cgcgacattc	ggagctatcc	gtccgattct	gtttgtcaac	480
aaaatgctgg	caaaaccggt	tctttcttcc	caaaactaaag	caaatatggg	atcttctgtt	540
agctatatatta	tggcggctaa	ccatgcagcg	tctgtggtgg	gtgctggact	cgctatcagt	600
gcggaaaagag	cagattgcga	agcccgtctc	gctcgtattg	cgagagaaga	gtcgttactc	660
gaagtgccgg	gagaggaaaa	tgcttgcgag	aagaaagtcg	ctggagagaa	agccaagacg	720
ttcacgcgca	tcaagtatgc	actcctcact	atgctcgaga	agtttttgga	atgcgttgcc	780
gacgttttca	aattgggtgc	gctgcctatt	acaatgggta	ttcgtgcgat	tgtggctgct	840
ggatgtacgt	tcacttctgc	aattattgga	ttgtgcactt	tctgcgccag	agcataa	897

<210> 127  
 <211> 298  
 <212> PRT  
 <213> Chlamydia

<400> 127

Met Ala Ser Ile Cys Gly Arg Leu Gly Ser Gly Thr Gly Asn Ala Leu  
 1 5 10 15  
 Lys Ala Phe Phe Thr Gln Pro Asn Asn Lys Met Ala Arg Val Val Asn  
 20 25 30  
 Lys Thr Lys Gly Met Asp Lys Thr Ile Lys Val Ala Lys Ser Ala Ala  
 35 40 45  
 Glu Leu Thr Ala Asn Ile Leu Glu Gln Ala Gly Gly Ala Gly Ser Ser  
 50 55 60

Ala His Ile Thr Ala Ser Gln Val Ser Lys Gly Leu Gly Asp Ala Arg  
65 70 75 80  
Thr Val Val Ala Leu Gly Asn Ala Phe Asn Gly Ala Leu Pro Gly Thr  
85 90 95  
Val Gln Ser Ala Gln Ser Phe Phe Ser His Met Lys Ala Ala Ser Gln  
100 105 110  
Lys Thr Gln Glu Gly Asp Glu Gly Leu Thr Ala Asp Leu Cys Val Ser  
115 120 125  
His Lys Arg Arg Ala Ala Ala Val Cys Ser Ile Ile Gly Gly Ile  
130 135 140  
Thr Tyr Leu Ala Thr Phe Gly Ala Ile Arg Pro Ile Leu Phe Val Asn  
145 150 155 160  
Lys Met Leu Ala Lys Pro Phe Leu Ser Ser Gln Thr Lys Ala Asn Met  
165 170 175  
Gly Ser Ser Val Ser Tyr Ile Met Ala Ala Asn His Ala Ala Ser Val  
180 185 190  
Val Gly Ala Gly Leu Ala Ile Ser Ala Glu Arg Ala Asp Cys Glu Ala  
195 200 205  
Arg Cys Ala Arg Ile Ala Arg Glu Glu Ser Leu Leu Glu Val Pro Gly  
210 215 220  
Glu Glu Asn Ala Cys Glu Lys Lys Val Ala Gly Glu Lys Ala Lys Thr  
225 230 235 240  
Phe Thr Arg Ile Lys Tyr Ala Leu Leu Thr Met Leu Glu Lys Phe Leu  
245 250 255  
Glu Cys Val Ala Asp Val Phe Lys Leu Val Pro Leu Pro Ile Thr Met  
260 265 270  
Gly Ile Arg Ala Ile Val Ala Ala Gly Cys Thr Phe Thr Ser Ala Ile  
275 280 285  
Ile Gly Leu Cys Thr Phe Cys Ala Arg Ala  
290 295

&lt;210&gt; 128

&lt;211&gt; 897

&lt;212&gt; DNA

&lt;213&gt; Chlamydia

&lt;400&gt; 128

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gttaaggtcg ccaagtctgc tgccgaattg accgcaaata ttttgaaca agctggagggc 180
gcgggctctt ccgcacacat tacagcttcc caagtgtcca aaggattagg ggatacgaga 240
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caaagcttct tctctcacat gaaagctgct agtcagaaaa cgcaagaagg ggatgagggg 360
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gcggaagag cagattgcga agcccgtgc gctcgtattg cgagagaaga gtcgttactc 660
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ttcacgcga tcaagtatgc actcctcact atgctcgaga agtttttga atgcgttgcc 780
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ggatgtacgt tcacttctgc aattattgga ttgtgcactt tctgcgccag agcataa 897

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&lt;210&gt; 129

&lt;211&gt; 298

&lt;212&gt; PRT

&lt;213&gt; Chlamydia

&lt;400&gt; 129

Met	Ala	Ser	Ile	Cys	Gly	Arg	Leu	Gly	Ser	Gly	Thr	Gly	Asn	Ala	Leu
1				5					10					15	
Lys	Ala	Phe	Phe	Thr	Gln	Pro	Ser	Asn	Lys	Met	Ala	Arg	Val	Val	Asn
			20					25					30		
Lys	Thr	Lys	Gly	Met	Asp	Lys	Thr	Val	Lys	Val	Ala	Lys	Ser	Ala	Ala
		35					40					45			
Glu	Leu	Thr	Ala	Asn	Ile	Leu	Glu	Gln	Ala	Gly	Gly	Ala	Gly	Ser	Ser
		50				55					60				
Ala	His	Ile	Thr	Ala	Ser	Gln	Val	Ser	Lys	Gly	Leu	Gly	Asp	Thr	Arg
65					70					75					80
Thr	Val	Val	Ala	Leu	Gly	Asn	Ala	Phe	Asn	Gly	Ala	Leu	Pro	Gly	Thr
				85					90					95	
Val	Gln	Ser	Ala	Gln	Ser	Phe	Phe	Ser	His	Met	Lys	Ala	Ala	Ser	Gln
			100					105					110		
Lys	Thr	Gln	Glu	Gly	Asp	Glu	Gly	Leu	Thr	Ala	Asp	Leu	Cys	Val	Ser
		115					120					125			
His	Lys	Arg	Arg	Ala	Ala	Ala	Ala	Val	Cys	Gly	Phe	Ile	Gly	Gly	Ile
	130					135					140				
Thr	Tyr	Leu	Ala	Thr	Phe	Gly	Val	Ile	Arg	Pro	Ile	Leu	Phe	Val	Asn
145					150					155					160
Lys	Met	Leu	Val	Asn	Pro	Phe	Leu	Ser	Ser	Gln	Thr	Lys	Ala	Asn	Met
				165					170					175	
Gly	Ser	Ser	Val	Ser	Tyr	Ile	Met	Ala	Ala	Asn	His	Ala	Ala	Ser	Val
			180				185						190		
Val	Gly	Ala	Gly	Leu	Ala	Ile	Ser	Ala	Glu	Arg	Ala	Asp	Cys	Glu	Ala
	195						200					205			
Arg	Cys	Ala	Arg	Ile	Ala	Arg	Glu	Glu	Ser	Leu	Leu	Glu	Val	Ser	Gly
	210					215					220				
Glu	Glu	Asn	Ala	Cys	Glu	Lys	Arg	Val	Ala	Gly	Glu	Lys	Ala	Lys	Thr
225					230					235					240
Phe	Thr	Arg	Ile	Lys	Tyr	Ala	Leu	Leu	Thr	Met	Leu	Glu	Lys	Phe	Leu
				245					250					255	
Glu	Cys	Val	Ala	Asp	Val	Phe	Lys	Leu	Val	Pro	Leu	Pro	Ile	Thr	Met
		260						265					270		
Gly	Ile	Arg	Ala	Ile	Val	Ala	Ala	Gly	Cys	Thr	Phe	Thr	Ser	Ala	Ile
	275						280					285			
Ile	Gly	Leu	Cys	Thr	Phe	Cys	Ala	Arg	Ala						
	290					295									

&lt;210&gt; 130

&lt;211&gt; 897

&lt;212&gt; DNA

&lt;213&gt; Chlamydia

&lt;400&gt; 130

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gttaaggtcg	ccaagtctgc	tgcggaattg	accgcaaata	ttttggaaca	agctggaggc	180
gcgggctctt	ccgcacacat	tacagcttcc	caagtgtcca	aaggattagg	ggatgcgaga	240
actgttctcg	ctttagggaa	tgcctttaac	ggagcgttgc	caggaacagt	tcaaagtgcg	300
caaagcttct	tctcttacat	gaaagctgct	agtcagaaac	cgcaagaagg	ggatgagggg	360

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ctcgtagcag atctttgtgt gtctcataag cgcagagcgg ctgcggctgt ctgtagcttc 420
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aaaatgctgg cgcaaccgtt tctttcttcc caaactaaag caaatatggg atcttctgtt 540
agctatatta tggcggctaa ccatgcagcg tttgtggtgg gttctggact cgctatcagt 600
gcggaaagag cagattgcga agcccgtgc gctcgtattg cgagagaaga gtcgtcactc 660
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ttcacgcgca tcaagtatgc actcctcact atgctcgaga agtttttgga atgcgttgcc 780
gacgttttca aattggtgcc gttgcctatt acaatgggta ttcgtgcaat tgtggctgcg 840
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&lt;210&gt; 131

&lt;211&gt; 298

&lt;212&gt; PRT

&lt;213&gt; Chlamydia

&lt;400&gt; 131

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Met Ala Ala Ile Cys Gly Arg Leu Gly Ser Gly Thr Gly Asn Ala Leu
1      5      10      15
Lys Ala Phe Phe Thr Gln Pro Ser Asn Lys Met Ala Arg Val Val Asn
20     25     30
Lys Thr Lys Gly Met Asp Lys Thr Val Lys Val Ala Lys Ser Ala Ala
35     40     45
Glu Leu Thr Ala Asn Ile Leu Glu Gln Ala Gly Gly Ala Gly Ser Ser
50     55     60
Ala His Ile Thr Ala Ser Gln Val Ser Lys Gly Leu Gly Asp Ala Arg
65     70     75     80
Thr Val Leu Ala Leu Gly Asn Ala Phe Asn Gly Ala Leu Pro Gly Thr
85     90     95
Val Gln Ser Ala Gln Ser Phe Phe Ser Tyr Met Lys Ala Ala Ser Gln
100    105    110
Lys Pro Gln Glu Gly Asp Glu Gly Leu Val Ala Asp Leu Cys Val Ser
115    120    125
His Lys Arg Arg Ala Ala Ala Val Cys Ser Phe Ile Gly Gly Ile
130    135    140
Thr Tyr Leu Ala Thr Phe Gly Ala Ile Arg Pro Ile Leu Phe Val Asn
145    150    155    160
Lys Met Leu Ala Gln Pro Phe Leu Ser Ser Gln Thr Lys Ala Asn Met
165    170    175
Gly Ser Ser Val Ser Tyr Ile Met Ala Ala Asn His Ala Ala Phe Val
180    185    190
Val Gly Ser Gly Leu Ala Ile Ser Ala Glu Arg Ala Asp Cys Glu Ala
195    200    205
Arg Cys Ala Arg Ile Ala Arg Glu Glu Ser Ser Leu Glu Leu Ser Gly
210    215    220
Glu Glu Asn Ala Cys Glu Arg Gly Val Ala Gly Glu Lys Ala Lys Thr
225    230    235    240
Phe Thr Arg Ile Lys Tyr Ala Leu Leu Thr Met Leu Glu Lys Phe Leu
245    250    255
Glu Cys Val Ala Asp Val Phe Lys Leu Val Pro Leu Pro Ile Thr Met
260    265    270
Gly Ile Arg Ala Ile Val Ala Ala Gly Cys Thr Phe Thr Ser Ala Val
275    280    285
Ile Gly Leu Trp Thr Phe Cys Asn Arg Val
290    295

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<210> 132  
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 <212> DNA  
 <213> Chlamydia

<400> 132  
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 gttaagggtcg ccaagtctgc tgcggaattg accgcaaata ttttggaaca agctggaggc 180  
 gcggggtctt ccgcacacat tacagcttcc caagtgtcca aaggattagg ggatgcgaga 240  
 actgttctcg ctttagggaa tgcctttaac ggagcgttgc caggaacagt tcaaagtgcg 300  
 caaagcttct tctcttacat gaaagctgct agtcagaaac cgcaagaagg ggatgagggg 360  
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 atcggaggaa ttacctacct cgcgacattc ggagctatcc gtccgattct gtttgtcaac 480  
 aaaatgctgg cgcaaccgtt tctttcttcc caaactaaag caaatatggg atcttctggt 540  
 agctatatta tggcggctaa ccatgcagcg tttgtggtgg gttctggact cgctatcagt 600  
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 ttcacgcgca tcaagtatgc actcctcact atgctcgaga agtttttggg atgcgttgcc 780  
 gacgttttca aattgggtgcc gttgcctatt acaatgggta ttcgtgcaat tgtggctgcg 840  
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<210> 133  
 <211> 298  
 <212> PRT  
 <213> Chlamydia

<400> 133  
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 20 25 30  
 Lys Thr Lys Gly Met Asp Lys Thr Val Lys Val Ala Lys Ser Ala Ala  
 35 40 45  
 Glu Leu Thr Ala Asn Ile Leu Glu Gln Ala Gly Gly Ala Gly Ser Ser  
 50 55 60  
 Ala His Ile Thr Ala Ser Gln Val Ser Lys Gly Leu Gly Asp Ala Arg  
 65 70 75 80  
 Thr Val Leu Ala Leu Gly Asn Ala Phe Asn Gly Ala Leu Pro Gly Thr  
 85 90 95  
 Val Gln Ser Ala Gln Ser Phe Phe Ser Tyr Met Lys Ala Ala Ser Gln  
 100 105 110  
 Lys Pro Gln Glu Gly Asp Glu Gly Leu Val Ala Asp Leu Cys Val Ser  
 115 120 125  
 His Lys Arg Arg Ala Ala Ala Val Cys Ser Phe Ile Gly Gly Ile  
 130 135 140  
 Thr Tyr Leu Ala Thr Phe Gly Ala Ile Arg Pro Ile Leu Phe Val Asn  
 145 150 155 160  
 Lys Met Leu Ala Gln Pro Phe Leu Ser Ser Gln Thr Lys Ala Asn Met  
 165 170 175  
 Gly Ser Ser Val Ser Tyr Ile Met Ala Ala Asn His Ala Ala Phe Val  
 180 185 190  
 Val Gly Ser Gly Leu Ala Ile Ser Ala Glu Arg Ala Asp Cys Glu Ala  
 195 200 205  
 Arg Cys Ala Arg Ile Ala Arg Glu Glu Ser Ser Leu Glu Leu Ser Gly

210	215	220
Glu Glu Asn Ala Cys	Glu Arg Arg Val Ala Gly	Glu Lys Ala Lys Thr
225	230	235
Phe Thr Arg Ile Lys Tyr	Ala Leu Leu Thr Met	Leu Glu Lys Phe Leu
245	250	255
Glu Cys Val Ala Asp	Val Phe Lys Leu Val Pro	Leu Pro Ile Thr Met
260	265	270
Gly Ile Arg Ala Ile Val	Ala Ala Gly Cys Thr	Phe Thr Ser Ala Val
275	280	285
Ile Gly Leu Trp Thr Phe	Cys Asn Arg Val	
290	295	

&lt;210&gt; 134

&lt;211&gt; 897

&lt;212&gt; DNA

&lt;213&gt; Chlamydia

&lt;400&gt; 134

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&lt;210&gt; 135

&lt;211&gt; 298

&lt;212&gt; PRT

&lt;213&gt; Chlamydia

&lt;400&gt; 135

Met	Ala	Ser	Ile	Cys	Gly	Arg	Leu	Gly	Ser	Gly	Thr	Gly	Asn	Ala	Leu
1				5				10						15	
Lys	Ala	Phe	Phe	Thr	Gln	Pro	Asn	Asn	Lys	Met	Ala	Arg	Val	Val	Asn
			20					25					30		
Lys	Thr	Lys	Gly	Met	Asp	Lys	Thr	Ile	Lys	Val	Ala	Lys	Ser	Ala	Ala
		35				40					45				
Glu	Leu	Thr	Ala	Asn	Ile	Leu	Glu	Gln	Ala	Gly	Gly	Ala	Gly	Ser	Ser
	50					55					60				
Ala	His	Ile	Thr	Ala	Ser	Gln	Val	Ser	Lys	Gly	Leu	Gly	Asp	Ala	Arg
65				70					75					80	
Thr	Val	Val	Ala	Leu	Gly	Asn	Ala	Phe	Asn	Gly	Ala	Leu	Pro	Gly	Thr
			85					90					95		
Val	Gln	Ser	Ala	Gln	Ser	Phe	Phe	Ser	His	Met	Lys	Ala	Ala	Ser	Gln
		100						105					110		
Lys	Thr	Gln	Glu	Gly	Asp	Glu	Gly	Leu	Thr	Ala	Asp	Leu	Cys	Val	Ser

115	120	125
His Lys Arg Arg Ala Ala Ala Val Cys Ser Ile Ile Gly Gly Ile		
130	135	140
Thr Tyr Leu Ala Thr Phe Gly Ala Ile Arg Pro Ile Leu Phe Val Asn		
145	150	155
Lys Met Leu Ala Lys Pro Phe Leu Ser Ser Gln Thr Lys Ala Asn Met		
165	170	175
Gly Ser Ser Val Ser Tyr Ile Met Ala Ala Asn His Ala Ala Ser Val		
180	185	190
Val Gly Ala Gly Leu Ala Ile Ser Ala Glu Arg Ala Asp Cys Glu Ala		
195	200	205
Arg Cys Ala Arg Ile Ala Arg Glu Glu Ser Leu Leu Glu Met Pro Gly		
210	215	220
Glu Glu Asn Ala Cys Glu Lys Lys Val Ala Gly Glu Lys Ala Lys Thr		
225	230	235
Phe Thr Arg Ile Lys Tyr Ala Leu Leu Thr Met Leu Glu Lys Phe Leu		
245	250	255
Glu Cys Val Ala Asp Val Phe Lys Leu Val Pro Leu Pro Ile Thr Met		
260	265	270
Gly Ile Arg Ala Ile Val Ala Ala Gly Cys Thr Phe Thr Ser Ala Ile		
275	280	285
Ile Gly Leu Cys Thr Phe Cys Ala Arg Ala		
290	295	

&lt;210&gt; 136

&lt;211&gt; 882

&lt;212&gt; DNA

&lt;213&gt; Chlamydia

&lt;400&gt; 136

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gcagggactg	atgcacatgt	tacggcggcc	aagggtgtcta	aagcacttgg	ggacgcgcga	240
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tctgcagtta	ttggcttagg	tacttttttg	tctagagcat	aa		882

&lt;210&gt; 137

&lt;211&gt; 293

&lt;212&gt; PRT

&lt;213&gt; Chlamydia

&lt;400&gt; 137

Met Ala Ser Val Cys Gly Arg Leu Ser Ala Gly Val Gly Asn Arg Phe
1 5 10 15
Asn Ala Phe Phe Thr Arg Pro Gly Asn Lys Leu Ser Arg Phe Val Asn



20 25 30  
 Ser Ala Lys Gly Leu Asp Arg Ser Ile Lys Val Gly Lys Ser Ala Ala  
 35 40 45  
 Glu Leu Thr Ala Ser Ile Leu Glu Gln Thr Gly Gly Ala Gly Thr Asp  
 50 55 60  
 Ala His Val Thr Ala Ala Lys Val Ser Lys Ala Leu Gly Asp Ala Arg  
 65 70 75 80  
 Thr Val Met Ala Leu Gly Asn Val Phe Asn Gly Ser Val Pro Ala Thr  
 85 90 95  
 Ile Gln Ser Ala Arg Ser Cys Leu Ala His Leu Arg Ala Ala Gly Lys  
 100 105 110  
 Glu Glu Glu Thr Cys Ser Lys Val Lys Asp Leu Cys Val Ser His Arg  
 115 120 125  
 Arg Arg Ala Ala Ala Glu Ala Cys Asn Val Ile Gly Ala Thr Tyr  
 130 135 140  
 Ile Thr Thr Phe Gly Ala Ile Arg Pro Thr Leu Val Asn Lys Leu  
 145 150 155 160  
 Leu Ala Lys Pro Phe Leu Ser Ser Gln Ala Lys Glu Gly Leu Gly Ala  
 165 170 175  
 Ser Val Gly Tyr Ile Met Ala Ala Asn His Ala Ala Ser Val Leu Gly  
 180 185 190  
 Ser Ala Leu Ser Ile Ser Ala Glu Arg Ala Asp Cys Glu Glu Arg Cys  
 195 200 205  
 Asp Arg Ile Arg Cys Ser Glu Asp Gly Glu Ile Cys Glu Gly Asn Lys  
 210 215 220  
 Leu Thr Ala Ile Ser Glu Glu Lys Ala Arg Ser Trp Thr Leu Ile Lys  
 225 230 235 240  
 Tyr Arg Phe Leu Thr Met Ile Glu Lys Leu Phe Glu Met Val Ala Asp  
 245 250 255  
 Ile Phe Lys Leu Ile Pro Leu Pro Ile Ser His Gly Ile Arg Ala Ile  
 260 265 270  
 Val Ala Ala Gly Cys Thr Leu Thr Ser Ala Val Ile Gly Leu Gly Thr  
 275 280 285  
 Phe Trp Ser Arg Ala  
 290

<210> 138  
 <211> 16  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Made in a lab

<400> 138  
 Asp Leu Cys Val Ser His Lys Arg Arg Ala Ala Ala Val Cys Ser  
 1 5 10 15

<210> 139  
 <211> 16  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Made in a lab

<400> 139  
 Arg Ala Ala Ala Val Cys Ser Phe Ile Gly Gly Ile Thr Tyr Leu  
 1 5 10 15

<210> 140  
 <211> 18  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Made in a lab

<400> 140  
 Cys Ser Phe Ile Gly Gly Ile Thr Tyr Leu Ala Thr Phe Gly Ala Ile  
 1 5 10 15  
 Arg Pro

<210> 141  
 <211> 18  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Made in a lab

<400> 14  
 Tyr Leu Ala Thr Phe Gly Ala Ile Arg Pro Ile Leu Phe Val Asn Lys  
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 Met Leu

<210> 142  
 <211> 18  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Made in a lab

<400> 142  
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 1 5 10 15  
 Ser Gln

<210> 143  
 <211> 17  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Made in a lab

<400> 143  
 Met Leu Ala Gln Pro Phe Leu Ser Ser Gln Thr Lys Ala Asn Met Gly  
 1 5 10 15  
 Ser

<210> 144  
 <211> 10  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Made in a lab

<400> 144  
 Cys Ser Phe Ile Gly Gly Ile Thr Tyr Leu  
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<210> 145  
 <211> 9  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Made in a lab

<400> 145  
 Ser Phe Ile Gly Gly Ile Thr Tyr Leu  
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<210> 146  
 <211> 8  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Made in a lab

<400> 146  
 Phe Ile Gly Gly Ile Thr Tyr Leu  
 1 5

<210> 147  
 <211> 9  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Made in a lab

<400> 147  
 Cys Ser Phe Ile Gly Gly Ile Thr Tyr  
 1 5

<210> 148

<211> 8  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Made in a lab

<400> 148  
 Cys Ser Phe Ile Gly Gly Ile Thr  
 1 5

<210> 149  
 <211> 10  
 <212> PRT  
 <213> Artificial Sequence

<220>  
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<400> 149  
 Cys Ser Ile Ile Gly Gly Ile Thr Tyr Leu  
 1 5 10

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 <212> PRT  
 <213> Artificial Sequence

<220>  
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<400> 150  
 Cys Gly Phe Ile Gly Gly Ile Thr Tyr Leu  
 1 5 10

<210> 151  
 <211> 9  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Made in a lab

<400> 151  
 Gly Phe Ile Gly Gly Ile Thr Tyr Leu  
 1 5

<210> 152  
 <211> 20  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Made in a lab

<400> 152  
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 Ser Val Ala Ser  
 20

<210> 153  
 <211> 20  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Made in a lab

<400> 153  
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 Thr Ser Arg His  
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<210> 154  
 <211> 20  
 <212> PRT  
 <213> Artificial Sequence

<220>  
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<400> 154  
 Ala Ser Ser Glu Glu Leu Pro Thr Ser Arg His Ser Glu Leu Ser Val  
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<210> 155  
 <211> 20  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Made in a lab

<400> 155  
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 Arg Asn Arg Phe  
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<210> 156  
 <211> 20  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Made in a lab

<400> 156  
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 Gln Ile Trp Asp  
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<210> 157  
 <211> 53  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Made in a lab

<400> 157  
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 1 5 10 15  
 Ser Ser Glu Glu Leu Pro Thr Ser Arg His Ser Glu Leu Ser Val Arg  
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 Phe Cys Leu Ser Thr Lys Cys Trp Arg Asn Arg Phe Phe Leu Pro Lys  
 35 40 45  
 Leu Lys Gln Ile Trp  
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<210> 158  
 <211> 52  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Made in a lab

<400> 158  
 Leu Cys Val Ser His Lys Arg Arg Ala Ala Ala Val Cys Ser Phe  
 1 5 10 15  
 Ile Gly Gly Ile Thr Tyr Leu Ala Thr Phe Gly Ala Ile Arg Pro Ile  
 20 25 30  
 Leu Phe Val Asn Lys Met Leu Ala Gln Pro Phe Leu Ser Ser Gln Ile  
 35 40 45  
 Lys Ala Asn Met  
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<210> 159  
 <211> 24  
 <212> DNA  
 <213> Chlamydia

<400> 159  
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24

<210> 160  
 <211> 24  
 <212> DNA  
 <213> Chlamydia

<400> 160  
ttaagaaatt taaaaaatcc ctta

24

<210> 161  
<211> 24  
<212> DNA  
<213> Chlamydia

<400> 161  
ggtataatat ctctctaaat ttg

24

<210> 162  
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<212> DNA  
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<400> 162  
agataaaaaa ggctgtttc

19

<210> 163  
<211> 24  
<212> DNA  
<213> Chlamydia

<400> 163  
ttttgaagca ggtaggtgaa tatg

24

<210> 164  
<211> 29  
<212> DNA  
<213> Chlamydia

<400> 164  
tttacaataa gaaaagctaa gcactttgt

29

<210> 165  
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<400> 165  
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20

<210> 166  
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<212> DNA  
<213> Chlamydia

<400> 166  
gtttccgggc cctcacattg

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<210> 167  
<211> 9  
<212> PRT

<213> Artificial Sequence

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<223> Made in a lab

<400> 167

Ser Phe Ile Gly Gly Ile Thr Tyr Leu  
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<210> 168

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Made in a lab

<400> 168

Ser Ile Ile Gly Gly Ile Thr Tyr Leu  
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<210> 169

<211> 2643

<212> DNA

<213> Chlamydia

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tag						2643

&lt;210&gt; 170

&lt;211&gt; 2949

&lt;212&gt; DNA

&lt;213&gt; Chlamydia

&lt;400&gt; 170

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&lt;210&gt; 171

&lt;211&gt; 2895

&lt;212&gt; DNA

&lt;213&gt; Chlamydia

&lt;400&gt; 171

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&lt;210&gt; 172

&lt;211&gt; 4593

&lt;212&gt; DNA

&lt;213&gt; Chlamydia

&lt;400&gt; 172

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&lt;210&gt; 173

&lt;211&gt; 5331

&lt;212&gt; DNA

&lt;213&gt; Chlamydia

&lt;400&gt; 173

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&lt;210&gt; 174

&lt;211&gt; 5265

&lt;212&gt; DNA

&lt;213&gt; Chlamydia

&lt;400&gt; 174

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<210> 175

<211> 880

<212> PRT

<213> Chlamydia

<220>

<221> VARIANT

<222> (1)...(880)

<223> Xaa = Any Amino Acid

<400> 175

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Thr Ala Leu Leu Thr Lys Asn Pro Asn His Val Val Cys Thr Phe Phe
          35          40          45
Glu Asp Cys Thr Met Glu Ser Leu Phe Pro Ala Leu Cys Ala His Ala
          50          55          60
Ser Gln Asp Asp Pro Leu Tyr Val Leu Gly Asn Ser Tyr Cys Trp Phe
65          70          75          80
Val Ser Lys Leu His Ile Thr Asp Pro Lys Glu Ala Leu Phe Lys Glu
          85          90          95
Lys Gly Asp Leu Ser Ile Gln Asn Phe Arg Phe Leu Ser Phe Thr Asp
          100         105         110
Cys Ser Ser Lys Glu Ser Ser Pro Ser Ile Ile His Gln Lys Asn Gly
          115         120         125
Gln Leu Ser Leu Arg Asn Asn Gly Ser Met Ser Phe Cys Arg Asn His
          130         135         140
Ala Glu Gly Ser Gly Gly Ala Ile Ser Ala Asp Ala Phe Ser Leu Gln

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Phe	Phe	Asp	Pro	Ile	Val	Gln	Glu	Ser	Ser	Ser	Lys	Glu	Ser	Pro
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Lys	Leu	Ala	Thr	Leu	Ser	Ile	Pro	Leu	His	Ser	Leu	Asp	Thr	Glu
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&lt;210&gt; 176

&lt;211&gt; 982

&lt;212&gt; PRT

&lt;213&gt; Chlamydia

&lt;220&gt;

&lt;221&gt; VARIANT

&lt;222&gt; (1)...(982)

&lt;223&gt; Xaa = Any Amino Acid

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65					70					75					80		
Ala	Leu	Ser	Asn	Ser	Ala	Ala	Asp	Gly	Leu	Phe	Thr	Ile	Glu	Gly	Phe		
				85					90					95			
Lys	Glu	Leu	Ser	Phe	Ser	Asn	Cys	Asn	Ser	Leu	Leu	Ala	Val	Leu	Pro		
			100					105					110				
Ala	Ala	Thr	Thr	Asn	Lys	Gly	Ser	Gln	Thr	Pro	Thr	Thr	Thr	Ser	Thr		
		115					120				125						
Pro	Ser	Asn	Gly	Thr	Ile	Tyr	Ser	Lys	Thr	Asp	Leu	Leu	Leu	Leu	Asn		
		130				135				140							
Asn	Glu	Lys	Phe	Ser	Phe	Tyr	Ser	Asn	Leu	Val	Ser	Gly	Asp	Gly	Gly		
145					150					155					160		
Ala	Ile	Asp	Ala	Lys	Ser	Leu	Thr	Val	Gln	Gly	Ile	Ser	Lys	Leu	Cys		
			165						170					175			
Val	Phe	Gln	Glu	Asn	Thr	Ala	Gln	Ala	Asp	Gly	Gly	Ala	Cys	Gln	Val		
		180					185					190					
Val	Thr	Ser	Phe	Ser	Ala	Met	Ala	Asn	Glu	Ala	Pro	Ile	Ala	Phe	Val		
		195					200				205						
Ala	Asn	Val	Ala	Gly	Val	Arg	Gly	Gly	Gly	Ile	Ala	Ala	Val	Gln	Asp		
	210				215					220							
Gly	Gln	Gln	Gly	Val	Ser	Ser	Ser	Thr	Ser	Thr	Glu	Asp	Pro	Val	Val		
225				230					235					240			
Ser	Phe	Ser	Arg	Asn	Thr	Ala	Val	Glu	Phe	Asp	Gly	Asn	Val	Ala	Arg		
			245					250					255				
Val	Gly	Gly	Gly	Ile	Tyr	Ser	Tyr	Gly	Asn	Val	Ala	Phe	Leu	Asn	Asn		
		260					265				270						
Gly	Lys	Thr	Leu	Phe	Leu	Asn	Asn	Val	Ala	Ser	Pro	Val	Tyr	Ile	Ala		
	275					280					285						
Ala	Lys	Gln	Pro	Thr	Ser	Gly	Gln	Ala	Ser	Asn	Thr	Ser	Asn	Asn	Tyr		
	290				295					300							
Gly	Asp	Gly	Gly	Ala	Ile	Phe	Cys	Lys	Asn	Gly	Ala	Gln	Ala	Gly	Ser		
305				310					315					320			
Asn	Asn	Ser	Gly	Ser	Val	Ser	Phe	Asp	Gly	Glu	Gly	Val	Val	Phe	Phe		
			325					330					335				
Ser	Ser	Asn	Val	Ala	Ala	Gly	Lys	Gly	Gly	Ala	Ile	Tyr	Ala	Lys	Lys		
		340				345					350						
Leu	Ser	Val	Ala	Asn	Cys	Gly	Pro	Val	Gln	Phe	Leu	Arg	Asn	Ile	Ala		
	355					360					365						
Asn	Asp	Gly	Gly	Ala	Ile	Tyr	Leu	Gly	Glu	Ser	Gly	Glu	Leu	Ser	Leu		
	370				375				380								
Ser	Ala	Asp	Tyr	Gly	Asp	Ile	Ile	Phe	Asp	Gly	Asn	Leu	Lys	Arg	Thr		
385				390					395					400			
Ala	Lys	Glu	Asn	Ala	Ala	Asp	Val	Asn	Gly	Val	Thr	Val	Ser	Ser	Gln		
			405					410					415				
Ala	Ile	Ser	Met	Gly	Ser	Gly	Gly	Lys	Ile	Thr	Thr	Leu	Arg	Ala	Lys		
		420					425					430					
Ala	Gly	His	Gln	Ile	Leu	Phe	Asn	Asp	Pro	Ile	Glu	Met	Ala	Asn	Gly		
	435						440				445						
Asn	Asn	Gln	Pro	Ala	Gln	Ser	Lys	Leu	Leu	Lys	Ile	Asn	Asp	Gly			
	450				455				460								
Glu	Gly	Tyr	Thr	Gly	Asp	Ile	Val	Phe	Ala	Asn	Gly	Ser	Ser	Thr	Leu		
465				470					475					480			
Tyr	Gln	Asn	Val	Thr	Ile	Glu	Gln	Gly	Arg	Ile	Val	Leu	Arg	Glu	Lys		
			485					490					495				

Ala	Lys	Leu	Ser	Val	Asn	Ser	Leu	Ser	Gln	Thr	Gly	Gly	Ser	Leu	Tyr	500	505	510
Met	Glu	Ala	Gly	Ser	Thr	Leu	Asp	Phe	Val	Thr	Pro	Gln	Pro	Pro	Gln	515	520	525
Gln	Pro	Pro	Ala	Ala	Asn	Gln	Leu	Ile	Thr	Leu	Ser	Asn	Leu	His	Leu	530	535	540
Ser	Leu	Ser	Ser	Leu	Leu	Ala	Asn	Asn	Ala	Val	Thr	Asn	Pro	Pro	Thr	545	550	555
Asn	Pro	Pro	Ala	Gln	Asp	Ser	His	Pro	Ala	Val	Ile	Gly	Ser	Thr	Thr	565	570	575
Ala	Gly	Ser	Val	Thr	Ile	Ser	Gly	Pro	Ile	Phe	Phe	Glu	Asp	Leu	Asp	580	585	590
Asp	Thr	Ala	Tyr	Asp	Arg	Tyr	Asp	Trp	Leu	Gly	Ser	Asn	Gln	Lys	Ile	595	600	605
Asn	Val	Leu	Lys	Leu	Gln	Leu	Gly	Thr	Lys	Pro	Pro	Ala	Asn	Ala	Pro	610	615	620
Ser	Asp	Leu	Thr	Leu	Gly	Asn	Glu	Met	Pro	Lys	Tyr	Gly	Tyr	Gln	Gly	625	630	635
Ser	Trp	Lys	Leu	Ala	Trp	Asp	Pro	Asn	Thr	Ala	Asn	Asn	Gly	Pro	Tyr	645	650	655
Thr	Leu	Lys	Ala	Thr	Trp	Thr	Lys	Thr	Gly	Tyr	Asn	Pro	Gly	Pro	Glu	660	665	670
Arg	Val	Ala	Ser	Leu	Val	Pro	Asn	Ser	Leu	Trp	Gly	Ser	Ile	Leu	Asp	675	680	685
Ile	Arg	Ser	Ala	His	Ser	Ala	Ile	Gln	Ala	Ser	Val	Asp	Gly	Arg	Ser	690	695	700
Tyr	Cys	Arg	Gly	Leu	Trp	Val	Ser	Gly	Val	Ser	Asn	Phe	Phe	Tyr	His	705	710	715
Asp	Arg	Asp	Ala	Leu	Gly	Gln	Gly	Tyr	Arg	Tyr	Ile	Ser	Gly	Gly	Tyr	725	730	735
Ser	Leu	Gly	Ala	Asn	Ser	Tyr	Phe	Gly	Ser	Ser	Met	Phe	Gly	Leu	Ala	740	745	750
Phe	Thr	Glu	Val	Phe	Gly	Arg	Ser	Lys	Asp	Tyr	Val	Val	Cys	Arg	Ser	755	760	765
Asn	His	His	Ala	Cys	Ile	Gly	Ser	Val	Tyr	Leu	Ser	Thr	Gln	Gln	Ala	770	775	780
Leu	Cys	Gly	Ser	Tyr	Leu	Phe	Gly	Asp	Ala	Phe	Ile	Arg	Ala	Ser	Tyr	785	790	795
Gly	Phe	Gly	Asn	Gln	His	Met	Lys	Thr	Ser	Tyr	Thr	Phe	Ala	Glu	Glu	805	810	815
Ser	Asp	Val	Arg	Trp	Asp	Asn	Asn	Cys	Leu	Ala	Gly	Glu	Ile	Gly	Ala	820	825	830
Gly	Leu	Pro	Ile	Val	Ile	Thr	Pro	Ser	Lys	Leu	Tyr	Leu	Asn	Glu	Leu	835	840	845
Arg	Pro	Phe	Val	Gln	Ala	Glu	Phe	Ser	Tyr	Ala	Asp	His	Glu	Ser	Phe	850	855	860
Thr	Glu	Glu	Gly	Asp	Gln	Ala	Arg	Ala	Phe	Lys	Ser	Gly	His	Leu	Leu	865	870	875
Asn	Leu	Ser	Val	Pro	Val	Gly	Val	Lys	Phe	Asp	Arg	Cys	Ser	Ser	Thr	885	890	895
His	Pro	Asn	Lys	Tyr	Ser	Phe	Met	Ala	Ala	Tyr	Ile	Cys	Asp	Ala	Tyr	900	905	910
Arg	Thr	Ile	Ser	Gly	Thr	Glu	Thr	Thr	Leu	Leu	Ser	His	Gln	Glu	Thr	915	920	925
Trp	Thr	Thr	Asp	Ala	Phe	His	Leu	Ala	Arg	His	Gly	Val	Val	Val	Arg			

930                      935                      940  
 Gly Ser Met Tyr Ala Ser Leu Thr Ser Asn Ile Glu Val Tyr Gly His  
 945                      950                      955                      960  
 Gly Arg Tyr Glu Tyr Arg Asp Ala Ser Arg Gly Tyr Gly Leu Ser Ala  
                     965                      970                      975  
 Gly Ser Lys Val Xaa Phe  
                     980

<210> 177  
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 <212> PRT  
 <213> Chlamydia

<400> 177

Met Lys Lys Ala Phe Phe Phe Leu Ile Gly Asn Ser Leu Ser Gly  
 1                      5                      10                      15  
 Leu Ala Arg Glu Val Pro Ser Arg Ile Phe Leu Met Pro Asn Ser Val  
                     20                      25                      30  
 Pro Asp Pro Thr Lys Glu Ser Leu Ser Asn Lys Ile Ser Leu Thr Gly  
                     35                      40                      45  
 Asp Thr His Asn Leu Thr Asn Cys Tyr Leu Asp Asn Leu Arg Tyr Ile  
                     50                      55                      60  
 Leu Ala Ile Leu Gln Lys Thr Pro Asn Glu Gly Ala Ala Val Thr Ile  
 65                      70                      75                      80  
 Thr Asp Tyr Leu Ser Phe Phe Asp Thr Gln Lys Glu Gly Ile Tyr Phe  
                     85                      90                      95  
 Ala Lys Asn Leu Thr Pro Glu Ser Gly Gly Ala Ile Gly Tyr Ala Ser  
                     100                      105                      110  
 Pro Asn Ser Pro Thr Val Glu Ile Arg Asp Thr Ile Gly Pro Val Ile  
                     115                      120                      125  
 Phe Glu Asn Asn Thr Cys Cys Arg Leu Phe Thr Trp Arg Asn Pro Tyr  
 130                      135                      140  
 Ala Ala Asp Lys Ile Arg Glu Gly Gly Ala Ile His Ala Gln Asn Leu  
 145                      150                      155                      160  
 Tyr Ile Asn His Asn His Asp Val Val Gly Phe Met Lys Asn Phe Ser  
                     165                      170                      175  
 Tyr Val Gln Gly Gly Ala Ile Ser Thr Ala Asn Thr Phe Val Val Ser  
                     180                      185                      190  
 Glu Asn Gln Ser Cys Phe Leu Phe Met Asp Asn Ile Cys Ile Gln Thr  
                     195                      200                      205  
 Asn Thr Ala Gly Lys Gly Gly Ala Ile Tyr Ala Gly Thr Ser Asn Ser  
 210                      215                      220  
 Phe Glu Ser Asn Asn Cys Asp Leu Phe Phe Ile Asn Asn Ala Cys Cys  
 225                      230                      235                      240  
 Ala Gly Gly Ala Ile Phe Ser Pro Ile Cys Ser Leu Thr Gly Asn Arg  
                     245                      250                      255  
 Gly Asn Ile Val Phe Tyr Asn Asn Arg Cys Phe Lys Asn Val Glu Thr  
                     260                      265                      270  
 Ala Ser Ser Glu Ala Ser Asp Gly Gly Ala Ile Lys Val Thr Thr Arg  
                     275                      280                      285  
 Leu Asp Val Thr Gly Asn Arg Gly Arg Ile Phe Phe Ser Asp Asn Ile  
 290                      295                      300  
 Thr Lys Asn Tyr Gly Gly Ala Ile Tyr Ala Pro Val Val Thr Leu Val  
 305                      310                      315                      320  
 Asp Asn Gly Pro Thr Tyr Phe Ile Asn Asn Ile Ala Asn Asn Lys Gly

					325										335
Gly	Ala	Ile	Tyr	Ile	Asp	Gly	Thr	Ser	Asn	Ser	Lys	Ile	Ser	Ala	Asp
			340					345					350		
Arg	His	Ala	Ile	Ile	Phe	Asn	Glu	Asn	Ile	Val	Thr	Asn	Val	Thr	Asn
		355					360					365			
Ala	Asn	Gly	Thr	Ser	Thr	Ser	Ala	Asn	Pro	Pro	Arg	Arg	Asn	Ala	Ile
		370					375				380				
Thr	Val	Ala	Ser	Ser	Ser	Gly	Glu	Ile	Leu	Leu	Gly	Ala	Gly	Ser	Ser
385					390				395						400
Gln	Asn	Leu	Ile	Phe	Tyr	Asp	Pro	Ile	Glu	Val	Ser	Asn	Ala	Gly	Val
				405					410					415	
Ser	Val	Ser	Phe	Asn	Lys	Glu	Ala	Asp	Gln	Thr	Gly	Ser	Val	Val	Phe
			420					425					430		
Ser	Gly	Ala	Thr	Val	Asn	Ser	Ala	Asp	Phe	His	Gln	Arg	Asn	Leu	Gln
		435					440					445			
Thr	Lys	Thr	Pro	Ala	Pro	Leu	Thr	Leu	Ser	Asn	Gly	Phe	Leu	Cys	Ile
	450					455					460				
Glu	Asp	His	Ala	Gln	Leu	Thr	Val	Asn	Arg	Phe	Thr	Gln	Thr	Gly	Gly
465					470					475					480
Val	Val	Ser	Leu	Gly	Asn	Gly	Ala	Val	Leu	Ser	Cys	Tyr	Lys	Asn	Gly
				485					490					495	
Thr	Gly	Asp	Ser	Ala	Ser	Asn	Ala	Ser	Ile	Thr	Leu	Lys	His	Ile	Gly
			500					505					510		
Leu	Asn	Leu	Ser	Ser	Ile	Leu	Lys	Ser	Gly	Ala	Glu	Ile	Pro	Leu	Leu
		515					520					525			
Trp	Val	Glu	Pro	Thr	Asn	Asn	Ser	Asn	Asn	Tyr	Thr	Ala	Asp	Thr	Ala
	530					535					540				
Ala	Thr	Phe	Ser	Leu	Ser	Asp	Val	Lys	Leu	Ser	Leu	Ile	Asp	Asp	Tyr
545					550					555					560
Gly	Asn	Ser	Pro	Tyr	Glu	Ser	Thr	Asp	Leu	Thr	His	Ala	Leu	Ser	Ser
				565				570						575	
Gln	Pro	Met	Leu	Ser	Ile	Ser	Glu	Ala	Ser	Asp	Asn	Gln	Leu	Gln	Ser
			580					585					590		
Glu	Asn	Ile	Asp	Phe	Ser	Gly	Leu	Asn	Val	Pro	His	Tyr	Gly	Trp	Gln
		595				600						605			
Gly	Leu	Trp	Thr	Trp	Gly	Trp	Ala	Lys	Thr	Gln	Asp	Pro	Glu	Pro	Ala
	610					615					620				
Ser	Ser	Ala	Thr	Ile	Thr	Asp	Pro	Gln	Lys	Ala	Asn	Arg	Phe	His	Arg
625					630					635					640
Thr	Leu	Leu	Leu	Thr	Trp	Leu	Pro	Ala	Gly	Tyr	Val	Pro	Ser	Pro	Lys
				645					650					655	
His	Arg	Ser	Pro	Leu	Ile	Ala	Asn	Thr	Leu	Trp	Gly	Asn	Met	Leu	Leu

Glu Gly Phe Leu Leu Thr Lys Leu Val Gly Leu Tyr Ser Tyr Gly Asp  
 770 775 780  
 His Asn Cys His His Phe Tyr Thr Gln Gly Glu Asn Leu Thr Ser Gln  
 785 790 795 800  
 Gly Thr Phe Arg Ser Gln Thr Met Gly Gly Ala Val Phe Phe Asp Leu  
 805 810 815  
 Pro Met Lys Pro Phe Gly Ser Thr His Ile Leu Thr Ala Pro Phe Leu  
 820 825 830  
 Gly Ala Leu Gly Ile Tyr Ser Ser Leu Ser His Phe Thr Glu Val Gly  
 835 840 845  
 Ala Tyr Pro Arg Ser Phe Ser Thr Lys Thr Pro Leu Ile Asn Val Leu  
 850 855 860  
 Val Pro Ile Gly Val Lys Gly Ser Phe Met Asn Ala Thr His Arg Pro  
 865 870 875 880  
 Gln Ala Trp Thr Val Glu Leu Ala Tyr Gln Pro Val Leu Tyr Arg Gln  
 885 890 895  
 Glu Pro Gly Ile Ala Thr Gln Leu Leu Ala Ser Lys Gly Ile Trp Phe  
 900 905 910  
 Gly Ser Gly Ser Pro Ser Ser Arg His Ala Met Ser Tyr Lys Ile Ser  
 915 920 925  
 Gln Gln Thr Gln Pro Leu Ser Trp Leu Thr Leu His Phe Gln Tyr His  
 930 935 940  
 Gly Phe Tyr Ser Ser Ser Thr Phe Cys Asn Tyr Leu Asn Gly Glu Ile  
 945 950 955 960  
 Ala Leu Arg Phe

<210> 178  
 <211> 1530  
 <212> PRT  
 <213> Chlamydia

<400> 178

Met Ser Ser Glu Lys Asp Ile Lys Ser Thr Cys Ser Lys Phe Ser Leu  
 1 5 10 15  
 Ser Val Val Ala Ala Ile Leu Ala Ser Val Ser Gly Leu Ala Ser Cys  
 20 25 30  
 Val Asp Leu His Ala Gly Gly Gln Ser Val Asn Glu Leu Val Tyr Val  
 35 40 45  
 Gly Pro Gln Ala Val Leu Leu Leu Asp Gln Ile Arg Asp Leu Phe Val  
 50 55 60  
 Gly Ser Lys Asp Ser Gln Ala Glu Gly Gln Tyr Arg Leu Ile Val Gly  
 65 70 75 80  
 Asp Pro Ser Ser Phe Gln Glu Lys Asp Ala Asp Thr Leu Pro Gly Lys  
 85 90 95  
 Val Glu Gln Ser Thr Leu Phe Ser Val Thr Asn Pro Val Val Phe Gln  
 100 105 110  
 Gly Val Asp Gln Gln Asp Gln Val Ser Ser Gln Gly Leu Ile Cys Ser  
 115 120 125  
 Phe Thr Ser Ser Asn Leu Asp Ser Pro Arg Asp Gly Glu Ser Phe Leu  
 130 135 140  
 Gly Ile Ala Phe Val Gly Asp Ser Ser Lys Ala Gly Ile Thr Leu Thr  
 145 150 155 160  
 Asp Val Lys Ala Ser Leu Ser Gly Ala Ala Leu Tyr Ser Thr Glu Asp  
 165 170 175

Leu Ile Phe Glu Lys Ile Lys Gly Gly Leu Glu Phe Ala Ser Cys Ser  
 180 185 190  
 Ser Leu Glu Gln Gly Gly Ala Cys Ala Ala Gln Ser Ile Leu Ile His  
 195 200 205  
 Asp Cys Gln Gly Leu Gln Val Lys His Cys Thr Thr Ala Val Asn Ala  
 210 215 220  
 Glu Gly Ser Ser Ala Asn Asp His Leu Gly Phe Gly Gly Gly Ala Phe  
 225 230 235 240  
 Phe Val Thr Gly Ser Leu Ser Gly Glu Lys Ser Leu Tyr Met Pro Ala  
 245 250 255  
 Gly Asp Met Val Val Ala Asn Cys Asp Gly Ala Ile Ser Phe Glu Gly  
 260 265 270  
 Asn Ser Ala Asn Phe Ala Asn Gly Gly Ala Ile Ala Ala Ser Gly Lys  
 275 280 285  
 Val Leu Phe Val Ala Asn Asp Lys Lys Thr Ser Phe Ile Glu Asn Arg  
 290 295 300  
 Ala Leu Ser Gly Gly Ala Ile Ala Ala Ser Ser Asp Ile Ala Phe Gln  
 305 310 315 320  
 Asn Cys Ala Glu Leu Val Phe Lys Gly Asn Cys Ala Ile Gly Thr Glu  
 325 330 335  
 Asp Lys Gly Ser Leu Gly Gly Gly Ala Ile Ser Ser Leu Gly Thr Val  
 340 345 350  
 Leu Leu Gln Gly Asn His Gly Ile Thr Cys Asp Lys Asn Glu Ser Ala  
 355 360 365  
 Ser Gln Gly Gly Ala Ile Phe Gly Lys Asn Cys Gln Ile Ser Asp Asn  
 370 375 380  
 Glu Gly Pro Val Val Phe Arg Asp Ser Thr Ala Cys Leu Gly Gly Gly  
 385 390 395 400  
 Ala Ile Ala Ala Gln Glu Ile Val Ser Ile Gln Asn Asn Gln Ala Gly  
 405 410 415  
 Ile Ser Phe Glu Gly Gly Lys Ala Ser Phe Gly Gly Gly Ile Ala Cys  
 420 425 430  
 Gly Ser Phe Ser Ser Ala Gly Gly Ala Ser Val Leu Gly Thr Ile Asp  
 435 440 445  
 Ile Ser Lys Asn Leu Gly Ala Ile Ser Phe Ser Arg Thr Leu Cys Thr  
 450 455 460  
 Thr Ser Asp Leu Gly Gln Met Glu Tyr Gln Gly Gly Gly Ala Leu Phe  
 465 470 475 480  
 Gly Glu Asn Ile Ser Leu Ser Glu Asn Ala Gly Val Leu Thr Phe Lys  
 485 490 495  
 Asp Asn Ile Val Lys Thr Phe Ala Ser Asn Gly Lys Ile Leu Gly Gly  
 500 505 510  
 Gly Ala Ile Leu Ala Thr Gly Lys Val Glu Ile Thr Asn Asn Ser Gly  
 515 520 525  
 Gly Ile Ser Phe Thr Gly Asn Ala Arg Ala Pro Gln Ala Leu Pro Thr  
 530 535 540  
 Gln Glu Glu Phe Pro Leu Phe Ser Lys Lys Glu Gly Arg Pro Leu Ser  
 545 550 555 560  
 Ser Gly Tyr Ser Gly Gly Gly Ala Ile Leu Gly Arg Glu Val Ala Ile  
 565 570 575  
 Leu His Asn Ala Ala Val Val Phe Glu Gln Asn Arg Leu Gln Cys Ser  
 580 585 590  
 Glu Glu Glu Ala Thr Leu Leu Gly Cys Cys Gly Gly Gly Ala Val His  
 595 600 605  
 Gly Met Asp Ser Thr Ser Ile Val Gly Asn Ser Ser Val Arg Phe Gly



610	615	620
Asn Asn Tyr Ala Met Gly Gln Gly Val Ser Gly Gly Ala Leu Leu Ser		
625	630	635
Lys Thr Val Gln Leu Ala Gly Asn Gly Ser Val Asp Phe Ser Arg Asn		
	645	650
Ile Ala Ser Leu Gly Gly Gly Ala Leu Gln Ala Ser Glu Gly Asn Cys		655
	660	665
Glu Leu Val Asp Asn Gly Tyr Val Leu Phe Arg Asp Asn Arg Gly Arg		670
	675	680
Val Tyr Gly Gly Ala Ile Ser Cys Leu Arg Gly Asp Val Val Ile Ser		685
	690	695
Gly Asn Lys Gly Arg Val Glu Phe Lys Asp Asn Ile Ala Thr Arg Leu		700
705	710	715
Tyr Val Glu Glu Thr Val Glu Lys Val Glu Glu Val Glu Pro Ala Pro		
	725	730
Glu Gln Lys Asp Asn Asn Glu Leu Ser Phe Leu Gly Ser Val Glu Gln		735
	740	745
Ser Phe Ile Thr Ala Ala Asn Gln Ala Leu Phe Ala Ser Glu Asp Gly		750
	755	760
Asp Leu Ser Pro Glu Ser Ser Ile Ser Ser Glu Glu Leu Ala Lys Arg		765
	770	775
Arg Glu Cys Ala Gly Gly Ala Ile Phe Ala Lys Arg Val Arg Ile Val		780
785	790	795
Asp Asn Gln Glu Ala Val Val Phe Ser Asn Asn Phe Ser Asp Ile Tyr		800
	805	810
Gly Gly Ala Ile Phe Thr Gly Ser Leu Arg Glu Glu Asp Lys Leu Asp		815
	820	825
Gly Gln Ile Pro Glu Val Leu Ile Ser Gly Asn Ala Gly Asp Val Val		830
	835	840
Phe Ser Gly Asn Ser Ser Lys Arg Asp Glu His Leu Pro His Thr Gly		845
	850	855
Gly Gly Ala Ile Cys Thr Gln Asn Leu Thr Ile Ser Gln Asn Thr Gly		860
865	870	875
Asn Val Leu Phe Tyr Asn Asn Val Ala Cys Ser Gly Gly Ala Val Arg		
	885	890
Ile Glu Asp His Gly Asn Val Leu Leu Glu Ala Phe Gly Gly Asp Ile		895
	900	905
Val Phe Lys Gly Asn Ser Ser Phe Arg Ala Gln Gly Ser Asp Ala Ile		910
	915	920
Tyr Phe Ala Gly Lys Glu Ser His Ile Thr Ala Leu Asn Ala Thr Glu		925
	930	935
Gly His Ala Ile Val Phe His Asp Ala Leu Val Phe Glu Asn Leu Lys		940
945	950	955
Glu Arg Lys Ser Ala Glu Val Leu Leu Ile Asn Ser Arg Glu Asn Pro		
	965	970
Gly Tyr Thr Gly Ser Ile Arg Phe Leu Glu Ala Glu Ser Lys Val Pro		975
	980	985
Gln Cys Ile His Val Gln Gln Gly Ser Leu Glu Leu Leu Asn Gly Ala		990
	995	1000
Thr Leu Cys Ser Tyr Gly Phe Lys Gln Asp Ala Gly Ala Lys Leu Val		1005
	1010	1015
Leu Ala Ala Gly Ser Lys Leu Lys Ile Leu Asp Ser Gly Thr Pro Val		1020
1025	1030	1035
Gln Gly His Ala Ile Ser Lys Pro Glu Ala Glu Ile Glu Ser Ser Ser		
	1045	1050
		1055

Glu	Pro	Glu	Gly	Ala	His	Ser	Leu	Trp	Ile	Ala	Lys	Asn	Ala	Gln	Thr
			1060					1065					1070		
Thr	Val	Pro	Met	Val	Asp	Ile	His	Thr	Ile	Ser	Val	Asp	Leu	Ala	Ser
		1075					1080					1085			
Phe	Ser	Ser	Ser	Gln	Gln	Glu	Gly	Thr	Val	Glu	Ala	Pro	Gln	Val	Ile
	1090					1095				1100					
Val	Pro	Gly	Gly	Ser	Tyr	Val	Arg	Ser	Gly	Glu	Leu	Asn	Leu	Glu	Leu
1105				1110						1115					1120
Val	Asn	Thr	Thr	Gly	Thr	Gly	Tyr	Glu	Asn	His	Ala	Leu	Leu	Lys	Asn
			1125					1130						1135	
Glu	Ala	Lys	Val	Pro	Leu	Met	Ser	Phe	Val	Ala	Ser	Ser	Asp	Glu	Ala
		1140						1145					1150		
Ser	Ala	Glu	Ile	Ser	Asn	Leu	Ser	Val	Ser	Asp	Leu	Gln	Ile	His	Val
	1155					1160					1165				
Ala	Thr	Pro	Glu	Ile	Glu	Glu	Asp	Thr	Tyr	Gly	His	Met	Gly	Asp	Trp
	1170					1175				1180					
Ser	Glu	Ala	Lys	Ile	Gln	Asp	Gly	Thr	Leu	Val	Ile	Asn	Trp	Asn	Pro
1185				1190						1195					1200
Thr	Gly	Tyr	Arg	Leu	Asp	Pro	Gln	Lys	Ala	Gly	Ala	Leu	Val	Phe	Asn
			1205						1210					1215	
Ala	Leu	Trp	Glu	Glu	Gly	Ala	Val	Leu	Ser	Ala	Leu	Lys	Asn	Ala	Arg
		1220						1225					1230		
Phe	Ala	His	Asn	Leu	Thr	Ala	Gln	Arg	Met	Glu	Phe	Asp	Tyr	Ser	Thr
	1235						1240					1245			
Asn	Val	Trp	Gly	Phe	Ala	Phe	Gly	Gly	Phe	Arg	Thr	Leu	Ser	Ala	Glu
	1250					1255				1260					
Asn	Leu	Val	Ala	Ile	Asp	Gly	Tyr	Lys	Gly	Ala	Tyr	Gly	Gly	Ala	Ser
1265				1270						1275					1280
Ala	Gly	Val	Asp	Ile	Gln	Leu	Met	Glu	Asp	Phe	Val	Leu	Gly	Val	Ser
			1285						1290					1295	
Gly	Ala	Ala	Phe	Leu	Gly	Lys	Met	Asp	Ser	Gln	Lys	Phe	Asp	Ala	Glu
		1300						1305					1310		
Val	Ser	Arg	Lys	Gly	Val	Val	Gly	Ser	Val	Tyr	Thr	Gly	Phe	Leu	Ala
	1315						1320					1325			
Gly	Ser	Trp	Phe	Phe	Lys	Gly	Gln	Tyr	Ser	Leu	Gly	Glu	Thr	Gln	Asn
	1330					1335					1340				
Asp	Met	Lys	Thr	Arg	Tyr	Gly	Val	Leu	Gly	Glu	Ser	Ser	Ala	Ser	Trp
1345					1350					1355					1360
Thr	Ser	Arg	Gly	Val	Leu	Ala	Asp	Ala	Leu	Val	Glu	Tyr	Arg	Ser	Leu
			1365						1370					1375	
Val	Gly	Pro	Val	Arg	Pro	Thr	Phe	Tyr	Ala	Leu	His	Phe	Asn	Pro	Tyr
		1380						138							

1490		1495		1500
Thr Ala Phe Cys Gly Gly Phe Thr Ser Thr Asp Ser Lys Leu Gly Tyr				
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	1525		1530	

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 <212> PRT  
 <213> Chlamydia

<400> 179

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		20						25					30		
Asp	Cys	Asn	Val	Ser	Lys	Val	Gly	Tyr	Ser	Thr	Ser	Gln	Ala	Phe	Thr
	35						40					45			
Asp	Met	Met	Leu	Ala	Asp	Asn	Thr	Glu	Tyr	Arg	Ala	Ala	Asp	Ser	Val
	50					55				60					
Ser	Phe	Tyr	Asp	Phe	Ser	Thr	Ser	Ser	Gly	Leu	Pro	Arg	Lys	His	Leu
65					70					75					80
Ser	Ser	Ser	Ser	Glu	Ala	Ser	Pro	Thr	Thr	Glu	Gly	Val	Ser	Ser	Ser
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Ser	Ser	Gly	Glu	Asn	Thr	Glu	Asn	Ser	Gln	Asp	Ser	Ala	Pro	Ser	Ser
		100						105					110		
Gly	Glu	Thr	Asp	Lys	Lys	Thr	Glu	Glu	Glu	Leu	Asp	Asn	Gly	Gly	Ile
	115						120					125			
Ile	Tyr	Ala	Arg	Glu	Lys	Leu	Thr	Ile	Ser	Glu	Ser	Gln	Asp	Ser	Leu
	130					135					140				
Ser	Asn	Pro	Ser	Ile	Glu	Leu	His	Asp	Asn	Ser	Phe	Phe	Phe	Gly	Glu
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Gly	Glu	Val	Ile	Phe	Asp	His	Arg	Val	Ala	Leu	Lys	Asn	Gly	Gly	Ala
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Ile	Tyr	Gly	Glu	Lys	Glu	Val	Val	Phe	Glu	Asn	Ile	Lys	Ser	Leu	Leu
		180						185					190		
Val	Glu	Val	Asn	Ile	Ser	Val	Glu	Lys	Gly	Gly	Ser	Val	Tyr	Ala	Lys
		195					200					205			
Glu	Arg	Val	Ser	Leu	Glu	Asn	Val	Thr	Glu	Ala	Thr	Phe	Ser	Ser	Asn
	210					215					220				
Gly	Gly	Glu	Gln	Gly	Gly	Gly	Gly	Ile	Tyr	Ser	Glu	Gln	Asp	Met	Leu
225					230					235					240
Ile	Ser	Asp	Cys	Asn	Asn	Val	His	Phe	Gln	Gly	Asn	Ala	Ala	Gly	Ala
				245					250					255	
Thr	Ala	Val	Lys	Gln	Cys	Leu	Asp	Glu	Glu	Met	Ile	Val	Leu	Leu	Thr
		260						265					270		
Glu	Cys	Val	Asp	Ser	Leu	Ser	Glu	Asp	Thr	Leu	Asp	Ser	Thr	Pro	Glu
		275					280					285			
Thr	Glu	Gln	Thr	Lys	Ser	Asn	Gly	Asn	Gln	Asp	Gly	Ser	Ser	Glu	Thr
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Lys	Asp	Thr	Gln	Val	Ser	Glu	Ser	Pro	Glu	Ser	Thr	Pro	Ser	Pro	Asp
305					310					315					320
Asp	Val	Leu	Gly	Lys	Gly	Gly	Gly	Ile	Tyr	Thr	Glu	Lys	Ser	Leu	Thr
				325					330					335	
Ile	Thr	Gly	Ile	Thr	Gly	Thr	Ile	Asp	Phe	Val	Ser	Asn	Ile	Ala	Thr

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Asp	Ser	Gly	Ala	Gly	Val	Phe	Thr	Lys	Glu	Asn	Leu	Ser	Cys	Thr	Asn
		355					360					365			
Thr	Asn	Ser	Leu	Gln	Phe	Leu	Lys	Asn	Ser	Ala	Gly	Gln	His	Gly	Gly
	370				375					380					
Gly	Ala	Tyr	Val	Thr	Gln	Thr	Met	Ser	Val	Thr	Asn	Thr	Thr	Ser	Glu
385					390					395					400
Ser	Ile	Thr	Thr	Pro	Pro	Leu	Val	Gly	Glu	Val	Ile	Phe	Ser	Glu	Asn
				405					410					415	
Thr	Ala	Lys	Gly	His	Gly	Gly	Gly	Ile	Cys	Thr	Asn	Lys	Leu	Ser	Leu
			420					425					430		
Ser	Asn	Leu	Lys	Thr	Val	Thr	Leu	Thr	Lys	Asn	Ser	Ala	Lys	Glu	Ser
		435					440					445			
Gly	Gly	Ala	Ile	Phe	Thr	Asp	Leu	Ala	Ser	Ile	Pro	Thr	Thr	Asp	Thr
	450					455					460				
Pro	Glu	Ser	Ser	Thr	Pro	Ser	Ser	Ser	Ser	Pro	Ala	Ser	Thr	Pro	Glu
465					470					475					480
Val	Val	Ala	Ser	Ala	Lys	Ile	Asn	Arg	Phe	Phe	Ala	Ser	Thr	Ala	Glu
				485					490						495
Pro	Ala	Ala	Pro	Ser	Leu	Thr	Glu	Ala	Glu	Ser	Asp	Gln	Thr	Asp	Gln
			500					505						510	
Thr	Glu	Thr	Ser	Asp	Thr	Asn	Ser	Asp	Ile	Asp	Val	Ser	Ile	Glu	Asn
		515					520					525			
Ile	Leu	Asn	Val	Ala	Ile	Asn	Gln	Asn	Thr	Ser	Ala	Lys	Lys	Gly	Gly
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Ala	Ile	Tyr	Gly	Lys	Lys	Ala	Lys	Leu	Ser	Arg	Ile	Asn	Asn	Leu	Glu
545					550					555					560
Leu	Ser	Gly	Asn	Ser	Ser	Gln	Asp	Val	Gly	Gly	Gly	Leu	Cys	Leu	Thr
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Glu	Ser	Val	Glu	Phe	Asp	Ala	Ile	Gly	Ser	Leu	Leu	Ser	His	Tyr	Asn
			580					585					590		
Ser	Ala	Ala	Lys	Glu	Gly	Gly	Val	Ile	His	Ser	Lys	Thr	Val	Thr	Leu
		595					600					605			
Ser	Asn	Leu	Lys	Ser	Thr	Phe	Thr	Phe	Ala	Asp	Asn	Thr	Val	Lys	Ala
		610				615					620				
Ile	Val	Glu	Ser	Thr	Pro	Glu	Ala	Pro	Glu	Glu	Ile	Pro	Pro	Val	Glu
625					630					635					640
Gly	Glu	Glu	Ser	Thr	Ala	Thr	Glu	Asn	Pro	Asn	Ser	Asn	Thr	Glu	Gly
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Ser	Ser	Ala	Asn	Thr	Asn	Leu	Glu	Gly	Ser	Gln	Gly	Asp	Thr	Ala	Asp
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Thr	Gly	Thr	Gly	Val	Val	Asn	Asn	Glu	Ser	Gln	Asp	Thr	Ser	Asp	Thr
		675					680					685			
Gly	Asn	Ala	Glu	Ser											

Ser Asn Ser Ser Gly Ser Asp Val Thr Ala Ser Ser Asp Asn Pro Asp  
 785 790 795 800  
 Ser Ser Ser Ser Gly Asp Ser Ala Gly Asp Ser Glu Gly Pro Thr Glu  
 805 810 815  
 Pro Glu Ala Gly Ser Thr Thr Glu Thr Pro Thr Leu Ile Gly Gly Gly  
 820 825 830  
 Ala Ile Tyr Gly Glu Thr Val Lys Ile Glu Asn Phe Ser Gly Gln Gly  
 835 840 845  
 Ile Phe Ser Gly Asn Lys Ala Ile Asp Asn Thr Thr Glu Gly Ser Ser  
 850 855 860  
 Ser Lys Ser Asn Val Leu Gly Gly Ala Val Tyr Ala Lys Thr Leu Phe  
 865 870 875 880  
 Asn Leu Asp Ser Gly Ser Ser Arg Arg Thr Val Thr Phe Ser Gly Asn  
 885 890 895  
 Thr Val Ser Ser Gln Ser Thr Thr Gly Gln Val Ala Gly Gly Ala Ile  
 900 905 910  
 Tyr Ser Pro Thr Val Thr Ile Ala Thr Pro Val Val Phe Ser Lys Asn  
 915 920 925  
 Ser Ala Thr Asn Asn Ala Asn Asn Ala Thr Asp Thr Gln Arg Lys Asp  
 930 935 940  
 Thr Phe Gly Gly Ala Ile Gly Ala Thr Ser Ala Val Ser Leu Ser Gly  
 945 950 955 960  
 Gly Ala His Phe Leu Glu Asn Val Ala Asp Leu Gly Ser Ala Ile Gly  
 965 970 975  
 Leu Val Pro Asp Thr Gln Asn Thr Glu Thr Val Lys Leu Glu Ser Gly  
 980 985 990  
 Ser Tyr Tyr Phe Glu Lys Asn Lys Ala Leu Lys Arg Ala Thr Ile Tyr  
 995 1000 1005  
 Ala Pro Val Val Ser Ile Lys Ala Tyr Thr Ala Thr Phe Asn Gln Asn  
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 Arg Ser Leu Glu Glu Gly Ser Ala Ile Tyr Phe Thr Lys Glu Ala Ser  
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 Ile Glu Ser Leu Gly Ser Val Leu Phe Thr Gly Asn Leu Val Thr Pro  
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 Thr Leu Ser Thr Thr Thr Glu Gly Thr Pro Ala Thr Thr Ser Gly Asp  
 1060 1065 1070  
 Val Thr Lys Tyr Gly Ala Ala Ile Phe Gly Gln Ile Ala Ser Ser Asn  
 1075 1080 1085  
 Gly Ser Gln Thr Asp Asn Leu Pro Leu Lys Leu Ile Ala Ser Gly Gly  
 1090 1095 1100  
 Asn Ile Cys Phe Arg Asn Asn Glu Tyr Arg Pro Thr Ser Ser Asp Thr  
 1105 1110 1115 1120  
 Gly Thr Ser Thr Phe Cys Ser Ile Ala Gly Asp Val Lys Leu Thr Met  
 1125 1130 1135  
 Gln Ala Ala Lys Gly Lys Thr Ile Ser Phe Phe Asp Ala Ile Arg Thr  
 1140 1145 1150  
 Ser Thr Lys Lys Thr Gly Thr Gln Ala Thr Ala Tyr Asp Thr Leu Asp  
 1155 1160 1165  
 Ile Asn Lys Ser Glu Asp Ser Glu Thr Val Asn Ser Ala Phe Thr Gly  
 1170 1175 1180  
 Thr Ile Leu Phe Ser Ser Glu Leu His Glu Asn Lys Ser Tyr Ile Pro  
 1185 1190 1195 1200  
 Gln Asn Val Val Leu His Ser Gly Ser Leu Val Leu Lys Pro Asn Thr  
 1205 1210 1215  
 Glu Leu His Val Ile Ser Phe Glu Gln Lys Glu Gly Ser Ser Leu Val

	1220		1225		1230
Met Thr Pro Gly Ser Val Leu Ser Asn Gln Thr Val Ala Asp Gly Ala					
1235		1240		1245	
Leu Val Ile Asn Asn Met Thr Ile Asp Leu Ser Ser Val Glu Lys Asn					
1250		1255		1260	
Gly Ile Ala Glu Gly Asn Ile Phe Thr Pro Pro Glu Leu Arg Ile Ile					
1265		1270		1275	1280
Asp Thr Thr Thr Ser Gly Ser Gly Gly Thr Pro Ser Thr Asp Ser Glu					
	1285		1290		1295
Ser Asn Gln Asn Ser Asp Asp Thr Lys Glu Gln Asn Asn Asn Asp Ala					
	1300		1305		1310
Ser Asn Gln Gly Glu Ser Ala Asn Gly Ser Ser Ser Pro Ala Val Ala					
	1315		1320		1325
Ala Ala His Thr Ser Arg Thr Arg Asn Phe Ala Ala Ala Thr Ala					
	1330		1335		1340
Thr Pro Thr Thr Thr Pro Thr Ala Thr Thr Thr Ser Asn Gln Val					
1345		1350		1355	1360
Ile Leu Gly Gly Glu Ile Lys Leu Ile Asp Pro Asn Gly Thr Phe Phe					
	1365		1370		1375
Gln Asn Pro Ala Leu Arg Ser Asp Gln Gln Ile Ser Leu Leu Val Leu					
	1380		1385		1390
Pro Thr Asp Ser Ser Lys Met Gln Ala Gln Lys Ile Val Leu Thr Gly					
	1395		1400		1405
Asp Ile Ala Pro Gln Lys Gly Tyr Thr Gly Thr Leu Thr Leu Asp Pro					
	1410		1415		1420
Asp Gln Leu Gln Asn Gly Thr Ile Ser Ala Leu Trp Lys Phe Asp Ser					
1425		1430		1435	1440
Tyr Arg Gln Trp Ala Tyr Val Pro Arg Asp Asn His Phe Tyr Ala Asn					
	1445		1450		1455
Ser Ile Leu Gly Ser Gln Met Ser Met Val Thr Val Lys Gln Gly Leu					
	1460		1465		1470
Leu Asn Asp Lys Met Asn Leu Ala Arg Phe Asp Glu Val Ser Tyr Asn					
	1475		1480		1485
Asn Leu Trp Ile Ser Gly Leu Gly Thr Met Leu Ser Gln Val Gly Thr					
	1490		1495		1500
Pro Thr Ser Glu Glu Phe Thr Tyr Tyr Ser Arg Gly Ala Ser Val Ala					
1505		1510		1515	1520
Leu Asp Ala Lys Pro Ala His Asp Val Ile Val Gly Ala Ala Phe Ser					
	1525		1530		1535
Lys Met Ile Gly Lys Thr Lys Ser Leu Lys Arg Glu Asn Asn Tyr Thr					
	1540		1545		1550
His Lys Gly Ser Glu Tyr Ser Tyr Gln Ala Ser Val Tyr Gly Gly Lys					
	1555		1560		1565
Pro Phe His Phe Val Ile Asn Lys Lys Thr Glu Lys Ser Leu Pro Leu					
	1570		1575		1580
Leu Leu Gln Gly Val Ile Ser Tyr Gly Tyr Ile Lys His Asp Thr Val					
1585		1590		1595	1600
Thr His Tyr Pro Thr Ile Arg Glu Arg Asn Gln Gly Glu Trp Glu Asp					
	1605		1610		1615
Leu Gly Trp Leu Thr Ala Leu Arg Val Ser Ser Val Leu Arg Thr Pro					
	1620		1625		1630
Ala Gln Gly Asp Thr Lys Arg Ile Thr Val Tyr Gly Glu Leu Glu Tyr					
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Ser Ser Ile Arg Gln Lys Gln Phe Thr Glu Thr Glu Tyr Asp Pro Arg					
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<211> 1752
<212> PRT
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<400> 180																
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			20					25					30			
Val	Glu	Thr	Ser	Ser	Ser	Thr	Thr	Phe	Thr	Glu	Thr	Ile	Gly	Glu	Ala	
		35					40					45				
Gly	Ala	Glu	Tyr	Ile	Val	Ser	Gly	Asn	Ala	Ser	Phe	Thr	Lys	Phe	Thr	
	50					55					60					
Asn	Ile	Pro	Thr	Thr	Asp	Thr	Thr	Thr	Pro	Thr	Asn	Ser	Asn	Ser	Ser	
65					70					75					80	
Ser	Ser	Ser	Gly	Glu	Thr	Ala	Ser	Val	Ser	Glu	Asp	Ser	Asp	Ser	Thr	
				85					90					95		
Thr	Thr	Thr	Pro	Asp	Pro	Lys	Gly	Gly	Gly	Ala	Phe	Tyr	Asn	Ala	His	
			100					105					110			
Ser	Gly	Val	Leu	Ser	Phe	Met	Thr	Arg	Ser	Gly	Thr	Glu	Gly	Ser	Leu	
		115					120					125				
Thr	Leu	Ser	Glu	Ile	Lys	Met	Thr	Gly	Glu	Gly	Gly	Ala	Ile	Phe	Ser	
	130				135						140					
Gln	Gly	Glu	Leu	Leu	Phe	Thr	Asp	Leu	Thr	Ser	Leu	Thr	Ile	Gln	Asn	
145					150					155					160	
Asn	Leu	Ser	Gln	Leu	Ser	Gly	Gly	Ala	Ile	Phe	Gly	Gly	Ser	Thr	Ile	
				165					170					175		
Ser	Leu	Ser	Gly	Ile	Thr	Lys	Ala	Thr	Phe	Ser	Cys	Asn	Ser	Ala	Glu	
			180					185					190			
Val	Pro	Ala	Pro	Val	Lys	Lys	Pro	Thr	Glu	Pro	Lys	Ala	Gln	Thr	Ala	
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Ser	Glu	Thr	Ser	Gly	Ser	Ser	Ser	Ser	Ser	Gly	Asn	Asp	Ser	Val	Ser	
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Ser	Pro	Ser	Ser	Ser	Arg	Ala	Glu	Pro	Ala	Ala	Ala	Asn	Leu	Gln	Ser	
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His	Phe	Ile	Cys	Ala	Thr	Ala	Thr	Pro	Ala	Ala	Gln	Thr	Asp	Thr	Glu	
				245					250					255		
Thr	Ser	Thr	Pro	Ser	His	Lys	Pro	Gly	Ser	Gly	Gly	Ala	Ile	Tyr	Ala	
			260					265					270			

Lys Gly Asp Leu Thr Ile Ala Asp Ser Gln Glu Val Leu Phe Ser Ile  
 275 280 285  
 Asn Lys Ala Thr Lys Asp Gly Gly Ala Ile Phe Ala Glu Lys Asp Val  
 290 295 300  
 Ser Phe Glu Asn Ile Thr Ser Leu Lys Val Gln Thr Asn Gly Ala Glu  
 305 310 315 320  
 Glu Lys Gly Gly Ala Ile Tyr Ala Lys Gly Asp Leu Ser Ile Gln Ser  
 325 330 335  
 Ser Lys Gln Ser Leu Phe Asn Ser Asn Tyr Ser Lys Gln Gly Gly Gly  
 340 345 350  
 Ala Leu Tyr Val Glu Gly Gly Ile Asn Phe Gln Asp Leu Glu Glu Ile  
 355 360 365  
 Arg Ile Lys Tyr Asn Lys Ala Gly Thr Phe Glu Thr Lys Lys Ile Thr  
 370 375 380  
 Leu Pro Ser Leu Lys Ala Gln Ala Ser Ala Gly Asn Ala Asp Ala Trp  
 385 390 395 400  
 Ala Ser Ser Ser Pro Gln Ser Gly Ser Gly Ala Thr Thr Val Ser Asp  
 405 410 415  
 Ser Gly Asp Ser Ser Ser Gly Ser Asp Ser Asp Thr Ser Glu Thr Val  
 420 425 430  
 Pro Val Thr Ala Lys Gly Gly Gly Leu Tyr Thr Asp Lys Asn Leu Ser  
 435 440 445  
 Ile Thr Asn Ile Thr Gly Ile Ile Glu Ile Ala Asn Asn Lys Ala Thr  
 450 455 460  
 Asp Val Gly Gly Gly Ala Tyr Val Lys Gly Thr Leu Thr Cys Glu Asn  
 465 470 475 480  
 Ser His Arg Leu Gln Phe Leu Lys Asn Ser Ser Asp Lys Gln Gly Gly  
 485 490 495  
 Gly Ile Tyr Gly Glu Asp Asn Ile Thr Leu Ser Asn Leu Thr Gly Lys  
 500 505 510  
 Thr Leu Phe Gln Glu Asn Thr Ala Lys Glu Glu Gly Gly Leu Phe  
 515 520 525  
 Ile Lys Gly Thr Asp Lys Ala Leu Thr Met Thr Gly Leu Asp Ser Phe  
 530 535 540  
 Cys Leu Ile Asn Asn Thr Ser Glu Lys His Gly Gly Gly Ala Phe Val  
 545 550 555 560  
 Thr Lys Glu Ile Ser Gln Thr Tyr Thr Ser Asp Val Glu Thr Ile Pro  
 565 570 575  
 Gly Ile Thr Pro Val His Gly Glu Thr Val Ile Thr Gly Asn Lys Ser  
 580 585 590  
 Thr Gly Gly Asn Gly Gly Gly Val Cys Thr Lys Arg Leu Ala Leu Ser  
 595 600 605  
 Asn Leu Gln Ser Ile Ser Ile Ser Gly Asn Ser Ala Ala Glu Asn Gly  
 610 615 620  
 Gly Gly Ala His Thr Cys Pro Asp Ser Phe Pro Thr Ala Asp Thr Ala  
 625 630 635 640  
 Glu Gln Pro Ala Ala Ser Ala Ala Thr Ser Thr Pro Lys Ser Ala  
 645 650 655  
 Pro Val Ser Thr Ala Leu Ser Thr Pro Ser Ser Ser Thr Val Ser Ser  
 660 665 670  
 Leu Thr Leu Leu Ala Ala Ser Ser Gln Ala Ser Pro Ala Thr Ser Asn  
 675 680 685  
 Lys Glu Thr Gln Asp Pro Asn Ala Asp Thr Asp Leu Leu Ile Asp Tyr  
 690 695 700  
 Val Val Asp Thr Thr Ile Ser Lys Asn Thr Ala Lys Lys Gly Gly Gly



705					710					715				720
Ile	Tyr	Ala	Lys	Lys	Ala	Lys	Met	Ser	Arg	Ile	Asp	Gln	Leu	Asn
				725					730					735
Ser	Glu	Asn	Ser	Ala	Thr	Glu	Ile	Gly	Gly	Gly	Ile	Cys	Cys	Lys
			740					745					750	
Ser	Leu	Glu	Leu	Asp	Ala	Leu	Val	Ser	Leu	Ser	Val	Thr	Glu	Asn
		755					760				765			
Val	Gly	Lys	Glu	Gly	Gly	Gly	Leu	His	Ala	Lys	Thr	Val	Asn	Ile
	770					775					780			
Asn	Leu	Lys	Ser	Gly	Phe	Ser	Phe	Ser	Asn	Asn	Lys	Ala	Asn	Ser
785					790				795					800
Ser	Thr	Gly	Val	Ala	Thr	Thr	Ala	Ser	Ala	Pro	Ala	Ala	Ala	Ala
			805					810						815
Ser	Leu	Gln	Ala	Ala	Ala	Ala	Ala	Ala	Pro	Ser	Ser	Pro	Ala	Thr
		820						825				830		
Thr	Tyr	Ser	Gly	Val	Val	Gly	Gly	Ala	Ile	Tyr	Gly	Glu	Lys	Val
	835						840					845		
Phe	Ser	Gln	Cys	Ser	Gly	Thr	Cys	Gln	Phe	Ser	Gly	Asn	Gln	Ala
	850					855					860			
Asp	Asn	Asn	Pro	Ser	Gln	Ser	Ser	Leu	Asn	Val	Gln	Gly	Gly	Ala
865					870					875				880
Tyr	Ala	Lys	Thr	Ser	Leu	Ser	Ile	Gly	Ser	Ser	Asp	Ala	Gly	Thr
			885					890						895
Tyr	Ile	Phe	Ser	Gly	Asn	Ser	Val	Ser	Thr	Gly	Lys	Ser	Gln	Thr
		900					905						910	
Gly	Gln	Ile	Ala	Gly	Gly	Ala	Ile	Tyr	Ser	Pro	Thr	Val	Thr	Leu
	915					920					925			
Cys	Pro	Ala	Thr	Phe	Ser	Asn	Asn	Thr	Ala	Ser	Ile	Ala	Thr	Pro
	930					935				940				
Thr	Ser	Ser	Glu	Asp	Gly	Ser	Ser	Gly	Asn	Ser	Ile	Lys	Asp	Thr
945					950				955					960
Gly	Gly	Ala	Ile	Ala	Gly	Thr	Ala	Ile	Thr	Leu	Ser	Gly	Val	Ser
			965					970						975
Phe	Ser	Gly	Asn	Thr	Ala	Asp	Leu	Gly	Ala	Ala	Ile	Gly	Thr	Leu
		980					985					990		
Asn	Ala	Asn	Thr	Pro	Ser	Ala	Thr	Ser	Gly	Ser	Gln	Asn	Ser	Ile
		995				1000					1005			
Glu	Lys	Ile	Thr	Leu	Glu	Asn	Gly	Ser	Phe	Ile	Phe	Glu	Arg	Asn
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Ala	Asn	Lys	Arg	Gly	Ala	Ile	Tyr	Ser	Pro	Ser	Val	Ser	Ile	Lys
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Asn	Asn	Ile	Thr	Phe	Asn	Gln	Asn	Thr	Ser	Thr	His	Asp	Gly	Ser
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Ile	Tyr	Phe	Thr	Lys	Asp	Ala	Thr	Ile	Glu	Ser	Leu	Gly	Ser	Val
		1060						1065				1070		
Phe	Thr	Gly	Asn	Asn	Val	Thr	Ala	Thr	Gln	Ala	Ser	Ser	Ala	Thr
	1075					1080					1085			
Gly	Gln	Asn	Thr	Asn	Thr	Ala	Asn	Tyr	Gly	Ala	Ala	Ile	Phe	Gly
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Pro	Gly	Thr	Thr	Gln	Ser	Ser	Gln	Thr	Asp	Ala	Ile	Leu	Thr	Leu
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Ala	Ser	Ser	Gly	Asn	Ile	Thr	Phe	Ser	Asn	Asn	Ser	Leu	Gln	Asn
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Gln	Gly	Asp	Thr	Pro	Ala	Ser	Lys	Phe	Cys	Ser	Ile	Ala	Gly	Tyr
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Lys Leu Ser Leu Gln Ala Ala Lys Gly Lys Thr Ile Ser Phe Phe Asp  
 1155 1160 1165  
 Cys Val His Thr Ser Thr Lys Lys Thr Gly Ser Thr Gln Asn Val Tyr  
 1170 1175 1180  
 Glu Thr Leu Asp Ile Asn Lys Glu Glu Asn Ser Asn Pro Tyr Thr Gly  
 1185 1190 1195 1200  
 Thr Ile Val Phe Ser Ser Glu Leu His Glu Asn Lys Ser Tyr Ile Pro  
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 Gln Asn Ala Ile Leu His Asn Gly Thr Leu Val Leu Lys Glu Lys Thr  
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 Glu Leu His Val Val Ser Phe Glu Gln Lys Glu Gly Ser Lys Leu Ile  
 1235 1240 1245  
 Met Glu Pro Gly Ala Val Leu Ser Asn Gln Asn Ile Ala Asn Gly Ala  
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 1265 1270 1275 1280  
 Gln Ala Gly Glu Ile Phe Ser Pro Pro Glu Leu Arg Ile Val Ala Thr  
 1285 1290 1295  
 Thr Ser Ser Ala Ser Gly Gly Ser Gly Val Ser Ser Ser Ile Pro Thr  
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 Asn Pro Lys Arg Ile Ser Ala Ala Val Pro Ser Gly Ser Ala Ala Thr  
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 Thr Pro Thr Met Ser Glu Asn Lys Val Phe Leu Thr Gly Asp Leu Thr  
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 Leu Ile Asp Pro Asn Gly Asn Phe Tyr Gln Asn Pro Met Leu Gly Ser  
 1345 1350 1355 1360  
 Asp Leu Asp Val Pro Leu Ile Lys Leu Pro Thr Asn Thr Ser Asp Val  
 1365 1370 1375  
 Gln Val Tyr Asp Leu Thr Leu Ser Gly Asp Leu Phe Pro Gln Lys Gly  
 1380 1385 1390  
 Tyr Met Gly Thr Trp Thr Leu Asp Ser Asn Pro Gln Thr Gly Lys Leu  
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 Arg Asp Asn His Phe Tyr Ala Asn Ser Ile Leu Gly Ser Gln Asn Ser  
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 Gly His Ile Lys His Asp Thr Thr Thr Leu Tyr Pro Ser Ile His Glu  
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1585                      1590                      1595                      1600  
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 Thr Glu Ile Asp Tyr Asp Pro Arg His Phe Asp Asp Cys Ala Tyr Arg  
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 Ser Cys Gly Ala Arg Met Ile Phe  
 1745                      1750

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 <212> DNA  
 <213> Chlamydia

<400> 181  
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&lt;210&gt; 182

&lt;211&gt; 3021

&lt;212&gt; DNA

&lt;213&gt; Chlamydia

&lt;400&gt; 182

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&lt;210&gt; 183

&lt;211&gt; 2934

&lt;212&gt; DNA

&lt;213&gt; Chlamydia

&lt;400&gt; 183

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&lt;210&gt; 184

&lt;211&gt; 2547

&lt;212&gt; DNA

&lt;213&gt; Chlamydia

&lt;400&gt; 184

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aatactggat	tgcgattgat	cttttaa				2547

&lt;210&gt; 185

&lt;211&gt; 2337

&lt;212&gt; DNA

&lt;213&gt; Chlamydia

&lt;400&gt; 185

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tcttcccaag	ggtaattttg	tagttttacg	agcagcaacc	ttgattctcc	ccgtgacgga	360
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gacgtgaaag	cttctttgtc	tggagcggct	ttatattcta	cagaagatct	tatctttgaa	480
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&lt;210&gt; 186

&lt;211&gt; 2847

&lt;212&gt; DNA

&lt;213&gt; Chlamydia

&lt;400&gt; 186

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aactgcggtg	ctcgtatgac	attctaa				2847

&lt;210&gt; 187

&lt;211&gt; 2466

&lt;212&gt; DNA

&lt;213&gt; Chlamydia

&lt;400&gt; 187

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gacaacacag	agtatcgagc	tgctgatagt	gtttcattct	atgacttttc	gacatcttcc	180
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gaaactgata	agaaaacaga	agaagaacta	gacaatggcg	gaatcattta	tgctagagag	360
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atctga

2466

&lt;210&gt; 188

&lt;211&gt; 1578

&lt;212&gt; DNA

&lt;213&gt; Chlamydia

&lt;400&gt; 188

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gcacaattcc	gcttctaa					1578

&lt;210&gt; 189

&lt;211&gt; 866

&lt;212&gt; PRT

&lt;213&gt; Chlamydia

&lt;220&gt;

&lt;221&gt; VARIANT

&lt;222&gt; (1)...(866)

&lt;223&gt; Xaa = Any Amino Acid

&lt;400&gt; 189

Met	Ala	Ser	His	His	His	His	His	His	Leu	Phe	Gly	Gln	Asp	Pro	Leu
1				5					10					15	
Gly	Glu	Thr	Ala	Leu	Leu	Thr	Lys	Asn	Pro	Asn	His	Val	Val	Cys	Thr
			20					25				30			
Phe	Phe	Glu	Asp	Cys	Thr	Met	Glu	Ser	Leu	Phe	Pro	Ala	Leu	Cys	Ala
		35				40					45				
His	Ala	Ser	Gln	Asp	Asp	Pro	Leu	Tyr	Val	Leu	Gly	Asn	Ser	Tyr	Cys
50						55					60				

Trp	Phe	Val	Ser	Lys	Leu	His	Ile	Thr	Asp	Pro	Lys	Glu	Ala	Leu	Phe
65					70					75					80
Lys	Glu	Lys	Gly	Asp	Leu	Ser	Ile	Gln	Asn	Phe	Arg	Phe	Leu	Ser	Phe
				85					90					95	
Thr	Asp	Cys	Ser	Ser	Lys	Glu	Ser	Ser	Pro	Ser	Ile	Ile	His	Gln	Lys
			100					105					110		
Asn	Gly	Gln	Leu	Ser	Leu	Arg	Asn	Asn	Gly	Ser	Met	Ser	Phe	Cys	Arg
		115					120					125			
Asn	His	Ala	Glu	Gly	Ser	Gly	Gly	Ala	Ile	Ser	Ala	Asp	Ala	Phe	Ser
	130					135						140			
Leu	Gln	His	Asn	Tyr	Leu	Phe	Thr	Ala	Phe	Glu	Glu	Asn	Ser	Ser	Lys
	145				150					155					160
Gly	Asn	Gly	Gly	Ala	Ile	Gln	Ala	Gln	Thr	Phe	Ser	Leu	Ser	Arg	Asn
				165					170						175
Val	Ser	Pro	Ile	Ser	Phe	Ala	Arg	Asn	Arg	Ala	Asp	Leu	Asn	Gly	Gly
			180					185					190		
Ala	Ile	Cys	Cys	Ser	Asn	Leu	Ile	Cys	Ser	Gly	Asn	Val	Asn	Pro	Leu
		195					200					205			
Phe	Phe	Thr	Gly	Asn	Ser	Ala	Thr	Asn	Gly	Gly	Xaa	Ile	Cys	Cys	Ile
	210					215						220			
Ser	Asp	Leu	Asn	Thr	Ser	Glu	Lys	Gly	Ser	Leu	Ser	Leu	Ala	Cys	Asn
	225				230					235					240
Gln	Xaa	Thr	Leu	Phe	Ala	Ser	Asn	Ser	Ala	Lys	Glu	Lys	Gly	Gly	Ala
				245					250						255
Ile	Tyr	Ala	Lys	His	Met	Val	Leu	Arg	Tyr	Asn	Gly	Pro	Val	Ser	Phe
			260					265					270		
Ile	Asn	Asn	Ser	Ala	Lys	Ile	Gly	Gly	Ala	Ile	Ala	Ile	Gln	Ser	Gly
	275						280						285		
Gly	Ser	Leu	Ser	Ile	Leu	Ala	Gly	Glu	Gly	Ser	Val	Leu	Phe	Gln	Asn
	290					295						300			
Asn	Ser	Gln	Arg	Thr	Ser	Asp	Gln	Gly	Leu	Val	Arg	Asn	Ala	Ile	Tyr
	305				310					315					320
Leu	Glu	Lys	Asp	Ala	Ile	Leu	Ser	Ser	Leu	Glu	Ala	Arg	Asn	Gly	Asp
				325					330					335	
Ile	Leu	Phe	Phe	Asp	Pro	Ile	Val	Gln	Glu	Ser	Ser	Ser	Lys	Glu	Ser
			340					345					350		
Pro	Leu	Pro	Ser	Ser	Leu	Gln	Ala	Ser	Val	Thr	Ser	Pro	Thr	Pro	Ala
	355					360						365			
Thr	Ala	Ser	Pro	Leu	Val	Ile	Gln	Thr	Ser	Ala	Asn	Arg	Ser	Val	Ile
	370					375						380			
Phe	Ser	Ser	Glu	Arg	Leu	Ser	Glu	Glu	Glu	Lys	Thr	Pro	Asp	Asn	Leu
	385				390					395					400
Thr	Ser	Gln	Leu	Gln	Gln	Pro	Ile	Glu	Leu	Lys	Ser	Gly	Arg	Leu	Val
				405					410					415	
Leu	Lys	Asp	Arg	Ala	Val	Leu	Ser	Xaa	Pro	Ser	Leu	Ser	Gln	Asp	Pro
			420					425					430		
Gln	Ala	Leu	Ile	Met	Glu	Ala	Gly	Thr	Ser	Leu	Lys	Thr	Ser	Xaa	
	435					440						445			
Asp	Leu	Lys	Leu	Xaa	Thr	Xaa	Ser	Ile	Pro	Leu	His	Ser	Leu	Asp	Thr
	450					455					460				
Glu	Lys	Ser	Val	Thr	Ile	His	Ala	Pro	Asn	Leu	Ser	Ile	Gln	Lys	Ile
	465				470					475					480
Phe	Leu	Ser	Asn	Ser	Gly	Asp	Glu	Asn	Phe	Tyr	Glu	Asn	Val	Glu	Leu
			485						490					495	
Leu	Ser	Lys	Glu	Gln	Asn	Asn	Ile	Pro	Leu	Leu	Thr	Leu	Pro	Lys	Glu

			500					505				510			
Gln	Ser	His	Leu	His	Leu	Pro	Asp	Gly	Asn	Leu	Ser	Ser	His	Phe	Gly
		515					520					525			
Tyr	Gln	Gly	Asp	Trp	Thr	Phe	Ser	Trp	Lys	Asp	Ser	Asp	Glu	Gly	His
	530					535					540				
Ser	Leu	Ile	Ala	Asn	Trp	Thr	Pro	Lys	Asn	Tyr	Val	Pro	His	Pro	Glu
545					550					555					560
Arg	Gln	Ser	Thr	Leu	Val	Ala	Asn	Thr	Leu	Trp	Asn	Thr	Tyr	Ser	Asp
				565					570						575
Met	Gln	Ala	Val	Gln	Ser	Met	Ile	Asn	Thr	Thr	Ala	His	Gly	Gly	Ala
			580					585					590		
Tyr	Leu	Phe	Gly	Thr	Trp	Gly	Ser	Ala	Val	Ser	Asn	Leu	Phe	Tyr	Val
	595					600					605				
His	Asp	Ser	Ser	Gly	Lys	Pro	Ile	Asp	Asn	Trp	His	His	Arg	Ser	Leu
	610					615					620				
Gly	Tyr	Leu	Phe	Gly	Ile	Ser	Thr	His	Ser	Leu	Asp	Asp	His	Ser	Phe
625					630					635					640
Cys	Leu	Ala	Ala	Gly	Gln	Leu	Leu	Gly	Lys	Ser	Ser	Asp	Ser	Phe	Ile
				645					650						655
Thr	Ser	Thr	Glu	Thr	Thr	Ser	Tyr	Ile	Ala	Thr	Val	Gln	Ala	Gln	Leu
			660					665					670		
Ala	Thr	Ser	Leu	Met	Lys	Ile	Ser	Ala	Gln	Ala	Cys	Tyr	Asn	Glu	Ser
		675					680					685			
Ile	His	Glu	Leu	Lys	Thr	Lys	Tyr	Arg	Ser	Phe	Ser	Lys	Glu	Gly	Phe
	690					695					700				
Gly	Ser	Trp	His	Ser	Val	Ala	Val	Ser	Gly	Glu	Val	Cys	Ala	Ser	Ile
705					710				715						720
Pro	Ile	Val	Ser	Asn	Gly	Ser	Gly	Leu	Phe	Ser	Ser	Phe	Ser	Ile	Phe
				725				730							735
Ser	Lys	Leu	Gln	Gly	Phe	Ser	Gly	Thr	Gln	Asp	Gly	Phe	Glu	Glu	Ser
		740					745					750			
Ser	Gly	Glu	Ile	Arg	Ser	Phe	Ser	Ala	Ser	Ser	Phe	Arg	Asn	Ile	Ser
		755					760				765				
Leu	Pro	Ile	Gly	Ile	Thr	Phe	Glu	Lys	Lys	Ser	Gln	Lys	Thr	Arg	Thr
	770					775					780				
Tyr	Tyr	Tyr	Phe	Leu	Gly	Ala	Tyr	Ile	Gln	Asp	Leu	Lys	Arg	Asp	Val
785					790				795						800
Glu	Ser	Gly	Pro	Val	Val	Leu	Leu	Lys	Asn	Ala	Val	Ser	Trp	Asp	Ala
				805					810						815
Pro	Met	Ala	Asn	Leu	Asp	Ser	Arg	Ala	Tyr	Met	Phe	Arg	Leu	Thr	Asn
			820					825					830		
Gln	Arg	Ala	Leu	His	Arg	Leu	Gln	Thr	Leu	Leu	Asn	Val	Ser	Cys	Val
		835					840				845				
Leu	Arg	Gly	Gln	Ser	His	Ser	Tyr	Ser	Leu	Asp	Leu	Gly	Thr	Thr	Tyr
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Arg	Phe														
865															

&lt;210&gt; 190

&lt;211&gt; 1006

&lt;212&gt; PRT

&lt;213&gt; Chlamydia

&lt;400&gt; 190

Met Ala Ser Met Thr Gly Gly Gln Gln Met Gly Arg Asp Ser Ser Leu

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			20					25					30			
Gly	Glu	Thr	Leu	Thr	Val	Ser	Phe	Pro	Tyr	Thr	Val	Ile	Gly	Asp	Pro	
		35					40					45				
Ser	Gly	Thr	Thr	Val	Phe	Ser	Ala	Gly	Glu	Leu	Thr	Leu	Lys	Asn	Leu	
		50				55					60					
Asp	Asn	Ser	Ile	Ala	Ala	Leu	Pro	Leu	Ser	Cys	Phe	Gly	Asn	Leu	Leu	
65				70						75					80	
Gly	Ser	Phe	Thr	Val	Leu	Gly	Arg	Gly	His	Ser	Leu	Thr	Phe	Glu	Asn	
			85					90						95		
Ile	Arg	Thr	Ser	Thr	Asn	Gly	Ala	Ala	Leu	Ser	Asn	Ser	Ala	Ala	Asp	
			100				105						110			
Gly	Leu	Phe	Thr	Ile	Glu	Gly	Phe	Lys	Glu	Leu	Ser	Phe	Ser	Asn	Cys	
		115				120						125				
Asn	Ser	Leu	Leu	Ala	Val	Leu	Pro	Ala	Ala	Thr	Thr	Asn	Lys	Gly	Ser	
		130				135					140					
Gln	Thr	Pro	Thr	Thr	Thr	Ser	Thr	Pro	Ser	Asn	Gly	Thr	Ile	Tyr	Ser	
145				150						155					160	
Lys	Thr	Asp	Leu	Leu	Leu	Leu	Asn	Asn	Glu	Lys	Phe	Ser	Phe	Tyr	Ser	
			165						170					175		
Asn	Leu	Val	Ser	Gly	Asp	Gly	Gly	Ala	Ile	Asp	Ala	Lys	Ser	Leu	Thr	
		180					185						190			
Val	Gln	Gly	Ile	Ser	Lys	Leu	Cys	Val	Phe	Gln	Glu	Asn	Thr	Ala	Gln	
		195					200					205				
Ala	Asp	Gly	Gly	Ala	Cys	Gln	Val	Val	Thr	Ser	Phe	Ser	Ala	Met	Ala	
		210				215					220					
Asn	Glu	Ala	Pro	Ile	Ala	Phe	Val	Ala	Asn	Val	Ala	Gly	Val	Arg	Gly	
225				230						235					240	
Gly	Gly	Ile	Ala	Ala	Val	Gln	Asp	Gly	Gln	Gln	Gly	Val	Ser	Ser	Ser	
		245						250						255		
Thr	Ser	Thr	Glu	Asp	Pro	Val	Val	Ser	Phe	Ser	Arg	Asn	Thr	Ala	Val	
		260						265					270			
Glu	Phe	Asp	Gly	Asn	Val	Ala	Arg	Val	Gly	Gly	Gly	Ile	Tyr	Ser	Tyr	
		275					280					285				
Gly	Asn	Val	Ala	Phe	Leu	Asn	Asn	Gly	Lys	Thr	Leu	Phe	Leu	Asn	Asn	
		290				295					300					
Val	Ala	Ser	Pro	Val	Tyr	Ile	Ala	Ala	Lys	Gln	Pro	Thr	Ser	Gly	Gln	
305				310						315					320	
Ala	Ser	Asn	Thr	Ser	Asn	Asn	Tyr	Gly	Asp	Gly	Gly	Ala	Ile	Phe	Cys	
		325						330						335		
Lys	Asn	Gly	Ala	Gln	Ala	Gly	Ser	Asn	Asn	Ser	Gly	Ser	Val	Ser	Phe	
		340						345	</							

Lys	Ile	Thr	Thr	Leu	Arg	Ala	Lys	Ala	Gly	His	Gln	Ile	Leu	Phe	Asn
450						455					460				
Asp	Pro	Ile	Glu	Met	Ala	Asn	Gly	Asn	Asn	Gln	Pro	Ala	Gln	Ser	Ser
465					470					475					480
Lys	Leu	Leu	Lys	Ile	Asn	Asp	Gly	Glu	Gly	Tyr	Thr	Gly	Asp	Ile	Val
				485					490					495	
Phe	Ala	Asn	Gly	Ser	Ser	Thr	Leu	Tyr	Gln	Asn	Val	Thr	Ile	Glu	Gln
			500					505					510		
Gly	Arg	Ile	Val	Leu	Arg	Glu	Lys	Ala	Lys	Leu	Ser	Val	Asn	Ser	Leu
		515					520					525			
Ser	Gln	Thr	Gly	Gly	Ser	Leu	Tyr	Met	Glu	Ala	Gly	Ser	Thr	Leu	Asp
	530					535					540				
Phe	Val	Thr	Pro	Gln	Pro	Pro	Gln	Gln	Pro	Pro	Ala	Ala	Asn	Gln	Leu
545					550					555					560
Ile	Thr	Leu	Ser	Asn	Leu	His	Leu	Ser	Leu	Ser	Ser	Leu	Leu	Ala	Asn
				565					570						575
Asn	Ala	Val	Thr	Asn	Pro	Pro	Thr	Asn	Pro	Pro	Ala	Gln	Asp	Ser	His
			580					585					590		
Pro	Ala	Val	Ile	Gly	Ser	Thr	Thr	Ala	Gly	Ser	Val	Thr	Ile	Ser	Gly
		595					600					605			
Pro	Ile	Phe	Phe	Glu	Asp	Leu	Asp	Asp	Thr	Ala	Tyr	Asp	Arg	Tyr	Asp
	610					615					620				
Trp	Leu	Gly	Ser	Asn	Gln	Lys	Ile	Asn	Val	Leu	Lys	Leu	Gln	Leu	Gly
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Thr	Lys	Pro	Pro	Ala	Asn	Ala	Pro	Ser	Asp	Leu	Thr	Leu	Gly	Asn	Glu
				645					650					655	
Met	Pro	Lys	Tyr	Gly	Tyr	Gln	Gly	Ser	Trp	Lys	Leu	Ala	Trp	Asp	Pro
			660					665					670		
Asn	Thr	Ala	Asn	Asn	Gly	Pro	Tyr	Thr	Leu	Lys	Ala	Thr	Trp	Thr	Lys
		675					680					685			
Thr	Gly	Tyr	Asn	Pro	Gly	Pro	Glu	Arg	Val	Ala	Ser	Leu	Val	Pro	Asn
	690					695					700				
Ser	Leu	Trp	Gly	Ser	Ile	Leu	Asp	Ile	Arg	Ser	Ala	His	Ser	Ala	Ile
705					710				715						720
Gln	Ala	Ser	Val	Asp	Gly	Arg	Ser	Tyr	Cys	Arg	Gly	Leu	Trp	Val	Ser
				725					730					735	
Gly	Val	Ser	Asn	Phe	Phe	Tyr	His	Asp	Arg	Asp	Ala	Leu	Gly	Gln	Gly
			740					745					750		
Tyr	Arg	Tyr	Ile	Ser	Gly	Gly	Tyr	Ser	Leu	Gly	Ala	Asn	Ser	Tyr	Phe
		755					760					765			
Gly	Ser	Ser	Met	Phe	Gly	Leu	Ala	Phe	Thr	Glu	Val	Phe	Gly	Arg	Ser
	770					775					780				
Lys	Asp	Tyr	Val	Val	Cys	Arg	Ser	Asn	His	His	Ala	Cys	Ile	Gly	Ser
785					790					795					800
Val	Tyr	Leu	Ser	Thr	Gln	Gln	Ala	Leu	Cys	Gly	Ser	Tyr	Leu	Phe	Gly
				805					810					815	
Asp	Ala	Phe	Ile	Arg	Ala	Ser	Tyr	Gly	Phe	Gly	Asn	Gln	His	Met	Lys
		820						825				830			
Thr	Ser	Tyr	Thr	Phe	Ala	Glu	Glu	Ser	Asp	Val	Arg	Trp	Asp	Asn	Asn
		835					840					845			
Cys	Leu	Ala	Gly	Glu	Ile	Gly	Ala	Gly	Leu	Pro	Ile	Val	Ile	Thr	Pro
	850					855					860				
Ser	Lys	Leu	Tyr	Leu	Asn	Glu	Leu	Arg	Pro	Phe	Val	Gln	Ala	Glu	Phe
865					870					875					880
Ser	Tyr	Ala	Asp	His	Glu	Ser	Phe	Thr	Glu	Glu	Gly	Asp	Gln	Ala	Arg

				885					890					895			
Ala	Phe	Lys	Ser	Gly	His	Leu	Leu	Asn	Leu	Ser	Val	Pro	Val	Gly	Val		
			900					905					910				
Lys	Phe	Asp	Arg	Cys	Ser	Ser	Thr	His	Pro	Asn	Lys	Tyr	Ser	Phe	Met		
		915					920					925					
Ala	Ala	Tyr	Ile	Cys	Asp	Ala	Tyr	Arg	Thr	Ile	Ser	Gly	Thr	Glu	Thr		
	930					935					940						
Thr	Leu	Leu	Ser	His	Gln	Glu	Thr	Trp	Thr	Thr	Asp	Ala	Phe	His	Leu		
945					950					955					960		
Ala	Arg	His	Gly	Val	Val	Val	Arg	Gly	Ser	Met	Tyr	Ala	Ser	Leu	Thr		
			965					970						975			
Ser	Asn	Ile	Glu	Val	Tyr	Gly	His	Gly	Arg	Tyr	Glu	Tyr	Arg	Asp	Ala		
		980						985					990				
Ser	Arg	Gly	Tyr	Gly	Leu	Ser	Ala	Gly	Ser	Lys	Val	Arg	Phe				
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<210> 191  
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 <212> PRT  
 <213> Chlamydia

<400> 191

Met	Ala	Ser	Met	Thr	Gly	Gly	Gln	Gln	Met	Gly	Arg	Asp	Ser	Ser	Leu		
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			20					25					30				
Glu	Val	Pro	Ser	Arg	Ile	Phe	Leu	Met	Pro	Asn	Ser	Val	Pro	Asp	Pro		
		35				40					45						
Thr	Lys	Glu	Ser	Leu	Ser	Asn	Lys	Ile	Ser	Leu	Thr	Gly	Asp	Thr	His		
	50					55					60						
Asn	Leu	Thr	Asn	Cys	Tyr	Leu	Asp	Asn	Leu	Arg	Tyr	Ile	Leu	Ala	Ile		
				70					75						80		
Leu	Gln	Lys	Thr	Pro	Asn	Glu	Gly	Ala	Ala	Val	Thr	Ile	Thr	Asp	Tyr		
				85				90						95			
Leu	Ser	Phe	Phe	Asp	Thr	Gln	Lys	Glu	Gly	Ile	Tyr	Phe	Ala	Lys	Asn		
			100					105					110				
Leu	Thr	Pro	Glu	Ser	Gly	Gly	Ala	Ile	Gly	Tyr	Ala	Ser	Pro	Asn	Ser		
		115				120						125					
Pro	Thr	Val	Glu	Ile	Arg	Asp	Thr	Ile	Gly	Pro	Val	Ile	Phe	Glu	Asn		
	130					135					140						
Asn	Thr	Cys	Cys	Arg	Leu	Phe	Thr	Trp	Arg	Asn	Pro	Tyr	Ala	Ala	Asp		
145				150					155						160		
Lys	Ile	Arg	Glu	Gly	Gly	Ala	Ile	His	Ala	Gln	Asn	Leu	Tyr	Ile	Asn		
			165					170						175			
His	Asn	His	Asp	Val	Val	Gly	Phe	Met	Lys	Asn	Phe	Ser	Tyr	Val	Gln		
		180						185					190				
Gly	Gly	Ala	Ile	Ser	Thr	Ala	Asn	Thr	Phe	Val	Val	Ser	Glu	Asn	Gln		
		195				200						205					
Ser	Cys	Phe	Leu	Phe	Met	Asp	Asn	Ile	Cys	Ile	Gln	Thr	Asn	Thr	Ala		
	210					215					220						
Gly	Lys	Gly	Gly	Ala	Ile	Tyr	Ala	Gly	Thr	Ser	Asn	Ser	Phe	Glu	Ser		
225				230					235						240		
Asn	Asn	Cys	Asp	Leu	Phe	Phe	Ile	Asn	Asn	Ala	Cys	Cys	Ala	Gly	Gly		
			245					250					255				
Ala	Ile	Phe	Ser	Pro	Ile	Cys	Ser	Leu	Thr	Gly	Asn	Arg	Gly	Asn	Ile		

				260				265						270			
Val	Phe	Tyr	Asn	Asn	Arg	Cys	Phe	Lys	Asn	Val	Glu	Thr	Ala	Ser	Ser		
		275					280						285				
Glu	Ala	Ser	Asp	Gly	Gly	Ala	Ile	Lys	Val	Thr	Thr	Arg	Leu	Asp	Val		
	290					295					300						
Thr	Gly	Asn	Arg	Gly	Arg	Ile	Phe	Phe	Ser	Asp	Asn	Ile	Thr	Lys	Asn		
305					310					315					320		
Tyr	Gly	Gly	Ala	Ile	Tyr	Ala	Pro	Val	Val	Thr	Leu	Val	Asp	Asn	Gly		
			325						330					335			
Pro	Thr	Tyr	Phe	Ile	Asn	Asn	Ile	Ala	Asn	Asn	Lys	Gly	Gly	Ala	Ile		
			340					345					350				
Tyr	Ile	Asp	Gly	Thr	Ser	Asn	Ser	Lys	Ile	Ser	Ala	Asp	Arg	His	Ala		
	355					360					365						
Ile	Ile	Phe	Asn	Glu	Asn	Ile	Val	Thr	Asn	Val	Thr	Asn	Ala	Asn	Gly		
	370					375					380						
Thr	Ser	Thr	Ser	Ala	Asn	Pro	Pro	Arg	Arg	Asn	Ala	Ile	Thr	Val	Ala		
385					390					395					400		
Ser	Ser	Ser	Gly	Glu	Ile	Leu	Leu	Gly	Ala	Gly	Ser	Ser	Gln	Asn	Leu		
			405					410						415			
Ile	Phe	Tyr	Asp	Pro	Ile	Glu	Val	Ser	Asn	Ala	Gly	Val	Ser	Val	Ser		
			420				425						430				
Phe	Asn	Lys	Glu	Ala	Asp	Gln	Thr	Gly	Ser	Val	Val	Phe	Ser	Gly	Ala		
	435					440						445					
Thr	Val	Asn	Ser	Ala	Asp	Phe	His	Gln	Arg	Asn	Leu	Gln	Thr	Lys	Thr		
	450				455						460						
Pro	Ala	Pro	Leu	Thr	Leu	Ser	Asn	Gly	Phe	Leu	Cys	Ile	Glu	Asp	His		
465					470					475					480		
Ala	Gln	Leu	Thr	Val	Asn	Arg	Phe	Thr	Gln	Thr	Gly	Gly	Val	Val	Ser		
			485					490						495			
Leu	Gly	Asn	Gly	Ala	Val	Leu	Ser	Cys	Tyr	Lys	Asn	Gly	Thr	Gly	Asp		
			500					505					510				
Ser	Ala	Ser	Asn	Ala	Ser	Ile	Thr	Leu	Lys	His	Ile	Gly	Leu	Asn	Leu		
	515					520						525					
Ser	Ser	Ile	Leu	Lys	Ser	Gly	Ala	Glu	Ile	Pro	Leu	Leu	Trp	Val	Glu		
	530				535						540						
Pro	Thr	Asn	Asn	Ser	Asn	Asn	Tyr	Thr	Ala	Asp	Thr	Ala	Ala	Thr	Phe		
545					550					555					560		
Ser	Leu	Ser	Asp	Val	Lys	Leu	Ser	Leu	Ile	Asp	Asp	Tyr	Gly	Asn	Ser		
			565					570						575			
Pro</																	



Gly Ile Thr Gly Gly Gly Leu Gly Met Met Val Tyr Gln Asp Pro Arg  
 705 710 715 720  
 Glu Asn His Pro Gly Phe His Met Arg Ser Ser Gly Tyr Ser Ala Gly  
 725 730 735  
 Met Ile Ala Gly Gln Thr His Thr Phe Ser Leu Lys Phe Ser Gln Thr  
 740 745 750  
 Tyr Thr Lys Leu Asn Glu Arg Tyr Ala Lys Asn Asn Val Ser Ser Lys  
 755 760 765  
 Asn Tyr Ser Cys Gln Gly Glu Met Leu Phe Ser Leu Gln Glu Gly Phe  
 770 775 780  
 Leu Leu Thr Lys Leu Val Gly Leu Tyr Ser Tyr Gly Asp His Asn Cys  
 785 790 795 800  
 His His Phe Tyr Thr Gln Gly Glu Asn Leu Thr Ser Gln Gly Thr Phe  
 805 810 815  
 Arg Ser Gln Thr Met Gly Gly Ala Val Phe Phe Asp Leu Pro Met Lys  
 820 825 830  
 Pro Phe Gly Ser Thr His Ile Leu Thr Ala Pro Phe Leu Gly Ala Leu  
 835 840 845  
 Gly Ile Tyr Ser Ser Leu Ser His Phe Thr Glu Val Gly Ala Tyr Pro  
 850 855 860  
 Arg Ser Phe Ser Thr Lys Thr Pro Leu Ile Asn Val Leu Val Pro Ile  
 865 870 875 880  
 Gly Val Lys Gly Ser Phe Met Asn Ala Thr His Arg Pro Gln Ala Trp  
 885 890 895  
 Thr Val Glu Leu Ala Tyr Gln Pro Val Leu Tyr Arg Gln Glu Pro Gly  
 900 905 910  
 Ile Ala Thr Gln Leu Leu Ala Ser Lys Gly Ile Trp Phe Gly Ser Gly  
 915 920 925  
 Ser Pro Ser Ser Arg His Ala Met Ser Tyr Lys Ile Ser Gln Gln Thr  
 930 935 940  
 Gln Pro Leu Ser Trp Leu Thr Leu His Phe Gln Tyr His Gly Phe Tyr  
 945 950 955 960  
 Ser Ser Ser Thr Phe Cys Asn Tyr Leu Asn Gly Glu Ile Ala Leu Arg  
 965 970 975  
 Phe

<210> 192  
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 <212> PRT  
 <213> Chlamydia

<400> 192  
 Met Ala Ser His His His His His His Gly Ala Ile Ser Cys Leu Arg  
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 Gly Asp Val Val Ile Ser Gly Asn Lys Gly Arg Val Glu Phe Lys Asp  
 20 25 30  
 Asn Ile Ala Thr Arg Leu Tyr Val Glu Glu Thr Val Glu Lys Val Glu  
 35 40 45  
 Glu Val Glu Pro Ala Pro Glu Gln Lys Asp Asn Asn Glu Leu Ser Phe  
 50 55 60  
 Leu Gly Ser Val Glu Gln Ser Phe Ile Thr Ala Ala Asn Gln Ala Leu  
 65 70 75 80  
 Phe Ala Ser Glu Asp Gly Asp Leu Ser Pro Glu Ser Ser Ile Ser Ser  
 85 90 95

Glu	Glu	Leu	Ala	Lys	Arg	Arg	Glu	Cys	Ala	Gly	Gly	Ala	Ile	Phe	Ala		
			100					105					110				
Lys	Arg	Val	Arg	Ile	Val	Asp	Asn	Gln	Glu	Ala	Val	Val	Phe	Ser	Asn		
		115					120					125					
Asn	Phe	Ser	Asp	Ile	Tyr	Gly	Gly	Ala	Ile	Phe	Thr	Gly	Ser	Leu	Arg		
	130					135					140						
Glu	Glu	Asp	Lys	Leu	Asp	Gly	Gln	Ile	Pro	Glu	Val	Leu	Ile	Ser	Gly		
145				150						155					160		
Asn	Ala	Gly	Asp	Val	Val	Phe	Ser	Gly	Asn	Ser	Ser	Lys	Arg	Asp	Glu		
			165						170					175			
His	Leu	Pro	His	Thr	Gly	Gly	Gly	Ala	Ile	Cys	Thr	Gln	Asn	Leu	Thr		
		180						185					190				
Ile	Ser	Gln	Asn	Thr	Gly	Asn	Val	Leu	Phe	Tyr	Asn	Asn	Val	Ala	Cys		
		195					200					205					
Ser	Gly	Gly	Ala	Val	Arg	Ile	Glu	Asp	His	Gly	Asn	Val	Leu	Leu	Glu		
	210					215					220						
Ala	Phe	Gly	Gly	Asp	Ile	Val	Phe	Lys	Gly	Asn	Ser	Ser	Phe	Arg	Ala		
225				230					235					240			
Gln	Gly	Ser	Asp	Ala	Ile	Tyr	Phe	Ala	Gly	Lys	Glu	Ser	His	Ile	Thr		
				245					250					255			
Ala	Leu	Asn	Ala	Thr	Glu	Gly	His	Ala	Ile	Val	Phe	His	Asp	Ala	Leu		
		260						265					270				
Val	Phe	Glu	Asn	Leu	Lys	Glu	Arg	Lys	Ser	Ala	Glu	Val	Leu	Leu	Ile		
		275					280					285					
Asn	Ser	Arg	Glu	Asn	Pro	Gly	Tyr	Thr	Gly	Ser	Ile	Arg	Phe	Leu	Glu		
	290					295					300						
Ala	Glu	Ser	Lys	Val	Pro	Gln	Cys	Ile	His	Val	Gln	Gln	Gly	Ser	Leu		
305				310						315					320		
Glu	Leu	Leu	Asn	Gly	Ala	Thr	Leu	Cys	Ser	Tyr	Gly	Phe	Lys	Gln	Asp		
			325						330					335			
Ala	Gly	Ala	Lys	Leu	Val	Leu	Ala	Ala	Gly	Ser	Lys	Leu	Lys	Ile	Leu		
			340					345					350				
Asp	Ser	Gly	Thr	Pro	Val	Gln	Gly	His	Ala	Ile	Ser	Lys	Pro	Glu	Ala		
		355					360					365					
Glu	Ile	Glu	Ser	Ser	Ser	Glu	Pro	Glu	Gly	Ala	His	Ser	Leu	Trp	Ile		
	370					375					380						
Ala	Lys	Asn	Ala	Gln	Thr	Thr	Val	Pro	Met	Val	Asp	Ile	His	Thr	Ile		
385				390						395				400			
Ser	Val	Asp	Leu	Ala	Ser	Phe	Ser	Ser	Ser	Gln	Gln	Glu	Gly	Thr	Val		
			405						410					415			
Glu	Ala	Pro	Gln	Val	Ile	Val	Pro	Gly	Gly	Ser	Tyr	Val	Arg	Ser	Gly		
		420						425				430					
Glu	Leu	Asn	Leu	Glu	Leu	Val	Asn	Thr	Thr	Gly	Thr	Gly	Tyr	Glu	Asn		
		435					440					445					
His	Ala	Leu	Leu	Lys	Asn	Glu	Ala	Lys	Val	Pro	Leu	Met	Ser	Phe	Val		
	450					455					460						
Ala	Ser	Ser	Asp	Glu	Ala	Ser	Ala	Glu	Ile	Ser	Asn	Leu	Ser	Val	Ser		
465				470						475				480			
Asp	Leu	Gln	Ile	His	Val	Ala	Thr	Pro	Glu	Ile	Glu	Glu	Asp	Thr	Tyr		
			485					490						495			
Gly	His	Met	Gly	Asp	Trp	Ser	Glu	Ala	Lys	Ile	Gln	Asp	Gly	Thr	Leu		
		500						505					510				
Val	Ile	Asn	Trp	Asn	Pro	Thr	Gly	Tyr	Arg	Leu	Asp	Pro	Gln	Lys	Ala		
		515					520					525					
Gly	Ala	Leu	Val	Phe	Asn	Ala	Leu	Trp	Glu	Glu	Gly	Ala	Val	Leu	Ser		

530		535		540
Ala Leu Lys Asn Ala Arg Phe Ala His Asn Leu Thr Ala Gln Arg Met				
545		550		555
Glu Phe Asp Tyr Ser Thr Asn Val Trp Gly Phe Ala Phe Gly Gly Phe				560
	565		570	575
Arg Thr Leu Ser Ala Glu Asn Leu Val Ala Ile Asp Gly Tyr Lys Gly				
	580		585	590
Ala Tyr Gly Gly Ala Ser Ala Gly Val Asp Ile Gln Leu Met Glu Asp				
	595		600	605
Phe Val Leu Gly Val Ser Gly Ala Ala Phe Leu Gly Lys Met Asp Ser				
	610		615	620
Gln Lys Phe Asp Ala Glu Val Ser Arg Lys Gly Val Val Gly Ser Val				
625		630		635
Tyr Thr Gly Phe Leu Ala Gly Ser Trp Phe Phe Lys Gly Gln Tyr Ser				640
	645		650	655
Leu Gly Glu Thr Gln Asn Asp Met Lys Thr Arg Tyr Gly Val Leu Gly				
	660		665	670
Glu Ser Ser Ala Ser Trp Thr Ser Arg Gly Val Leu Ala Asp Ala Leu				
	675		680	685
Val Glu Tyr Arg Ser Leu Val Gly Pro Val Arg Pro Thr Phe Tyr Ala				
	690		695	700
Leu His Phe Asn Pro Tyr Val Glu Val Ser Tyr Ala Ser Met Lys Phe				
705		710		715
Pro Gly Phe Thr Glu Gln Gly Arg Glu Ala Arg Ser Phe Glu Asp Ala				720
	725		730	735
Ser Leu Thr Asn Ile Thr Ile Pro Leu Gly Met Lys Phe Glu Leu Ala				
	740		745	750
Phe Ile Lys Gly Gln Phe Ser Glu Val Asn Ser Leu Gly Ile Ser Tyr				
	755		760	765
Ala Trp Glu Ala Tyr Arg Lys Val Glu Gly Gly Ala Val Gln Leu Leu				
	770		775	780
Glu Ala Gly Phe Asp Trp Glu Gly Ala Pro Met Asp Leu Pro Arg Gln				
785		790		795
Glu Leu Arg Val Ala Leu Glu Asn Asn Thr Glu Trp Ser Ser Tyr Phe				800
	805		810	815
Ser Thr Val Leu Gly Leu Thr Ala Phe Cys Gly Gly Phe Thr Ser Thr				
	820		825	830
Asp Ser Lys Leu Gly Tyr Glu Ala Asn Thr Gly Leu Arg Leu Ile Phe				
	835		840	845

&lt;210&gt; 193

&lt;211&gt; 778

&lt;212&gt; PRT

&lt;213&gt; Chlamydia

&lt;400&gt; 193

Met His His His His His His Gly Leu Ala Ser Cys Val Asp Leu His				
1	5	10	15	
Ala Gly Gly Gln Ser Val Asn Glu Leu Val Tyr Val Gly Pro Gln Ala				
	20	25	30	
Val Leu Leu Leu Asp Gln Ile Arg Asp Leu Phe Val Gly Ser Lys Asp				
	35	40	45	
Ser Gln Ala Glu Gly Gln Tyr Arg Leu Ile Val Gly Asp Pro Ser Ser				
50	55	60		
Phe Gln Glu Lys Asp Ala Asp Thr Leu Pro Gly Lys Val Glu Gln Ser				

65					70					75				80	
Thr	Leu	Phe	Ser	Val	Thr	Asn	Pro	Val	Val	Phe	Gln	Gly	Val	Asp	Gln
				85					90					95	
Gln	Asp	Gln	Val	Ser	Ser	Gln	Gly	Leu	Ile	Cys	Ser	Phe	Thr	Ser	Ser
			100					105					110		
Asn	Leu	Asp	Ser	Pro	Arg	Asp	Gly	Glu	Ser	Phe	Leu	Gly	Ile	Ala	Phe
		115					120					125			
Val	Gly	Asp	Ser	Ser	Lys	Ala	Gly	Ile	Thr	Leu	Thr	Asp	Val	Lys	Ala
							135					140			
Ser	Leu	Ser	Gly	Ala	Ala	Leu	Tyr	Ser	Thr	Glu	Asp	Leu	Ile	Phe	Glu
145						150				155					160
Lys	Ile	Lys	Gly	Gly	Leu	Glu	Phe	Ala	Ser	Cys	Ser	Ser	Leu	Glu	Gln
				165					170						175
Gly	Gly	Ala	Cys	Ala	Ala	Gln	Ser	Ile	Leu	Ile	His	Asp	Cys	Gln	Gly
			180					185					190		
Leu	Gln	Val	Lys	His	Cys	Thr	Thr	Ala	Val	Asn	Ala	Glu	Gly	Ser	Ser
			195				200					205			
Ala	Asn	Asp	His	Leu	Gly	Phe	Gly	Gly	Gly	Ala	Phe	Phe	Val	Thr	Gly
						215						220			
Ser	Leu	Ser	Gly	Glu	Lys	Ser	Leu	Tyr	Met	Pro	Ala	Gly	Asp	Met	Val
225					230					235					240
Val	Ala	Asn	Cys	Asp	Gly	Ala	Ile	Ser	Phe	Glu	Gly	Asn	Ser	Ala	Asn
				245					250					255	
Phe	Ala	Asn	Gly	Gly	Ala	Ile	Ala	Ala	Ser	Gly	Lys	Val	Leu	Phe	Val
			260				265						270		
Ala	Asn	Asp	Lys	Lys	Thr	Ser	Phe	Ile	Glu	Asn	Arg	Ala	Leu	Ser	Gly
			275				280					285			
Gly	Ala	Ile	Ala	Ala	Ser	Ser	Asp	Ile	Ala	Phe	Gln	Asn	Cys	Ala	Glu
			290				295				300				
Leu	Val	Phe	Lys	Gly	Asn	Cys	Ala	Ile	Gly	Thr	Glu	Asp	Lys	Gly	Ser
305					310					315					320
Leu	Gly	Gly	Gly	Ala	Ile	Ser	Ser	Leu	Gly	Thr	Val	Leu	Leu	Gln	Gly
				325					330					335	
Asn	His	Gly	Ile	Thr	Cys	Asp	Lys	Asn	Glu	Ser	Ala	Ser	Gln	Gly	Gly
			340					345					350		
Ala	Ile	Phe	Gly	Lys	Asn	Cys	Gln	Ile	Ser	Asp	Asn	Glu	Gly	Pro	Val
			355				360					365			
Val	Phe	Arg	Asp	Ser	Thr	Ala	Cys	Leu	Gly	Gly	Gly	Ala	Ile	Ala	Ala
			370			375					380				
Gln	Glu	Ile	Val	Ser	Ile	Gln	Asn	Asn	Gln	Ala	Gly	Ile	Ser	Phe	Glu
385					390					395					400
Gly	Gly	Lys	Ala	Ser	Phe	Gly	Gly	Gly	Ile	Ala	Cys	Gly	Ser	Phe	Ser
			405					410					415		
Ser	Ala	Gly	Gly	Ala	Ser	Val	Leu	Gly	Thr	Ile	Asp	Ile	Ser	Lys	Asn
			420					425					430		
Leu	Gly	Ala	Ile	Ser	Phe	Ser	Arg	Thr	Leu	Cys	Thr	Thr	Ser	Asp	Leu
			435				440					445			
Gly	Gln	Met	Glu	Tyr	Gln	Gly	Gly	Gly	Ala	Leu	Phe	Gly	Glu	Asn	Ile
			450			455					460				
Ser	Leu	Ser	Glu	Asn	Ala	Gly	Val	Leu	Thr	Phe	Lys	Asp	Asn	Ile	Val
465					470					475					480
Lys	Thr	Phe	Ala	Ser	Asn	Gly	Lys	Ile	Leu	Gly	Gly	Gly	Ala	Ile	Leu
			485					490					495		
Ala	Thr	Gly	Lys	Val	Glu	Ile	Thr	Asn	Asn	Ser	Gly	Gly	Ile	Ser	Phe
			500					505					510		

Thr Gly Asn Ala Arg Ala Pro Gln Ala Leu Pro Thr Gln Glu Glu Phe  
 515 520 525  
 Pro Leu Phe Ser Lys Lys Glu Gly Arg Pro Leu Ser Ser Gly Tyr Ser  
 530 535 540  
 Gly Gly Gly Ala Ile Leu Gly Arg Glu Val Ala Ile Leu His Asn Ala  
 545 550 555 560  
 Ala Val Val Phe Glu Gln Asn Arg Leu Gln Cys Ser Glu Glu Glu Ala  
 565 570 575  
 Thr Leu Leu Gly Cys Cys Gly Gly Gly Ala Val His Gly Met Asp Ser  
 580 585 590  
 Thr Ser Ile Val Gly Asn Ser Ser Val Arg Phe Gly Asn Asn Tyr Ala  
 595 600 605  
 Met Gly Gln Gly Val Ser Gly Gly Ala Leu Leu Ser Lys Thr Val Gln  
 610 615 620  
 Leu Ala Gly Asn Gly Ser Val Asp Phe Ser Arg Asn Ile Ala Ser Leu  
 625 630 635 640  
 Gly Gly Gly Ala Leu Gln Ala Ser Glu Gly Asn Cys Glu Leu Val Asp  
 645 650 655  
 Asn Gly Tyr Val Leu Phe Arg Asp Asn Arg Gly Arg Val Tyr Gly Gly  
 660 665 670  
 Ala Ile Ser Cys Leu Arg Gly Asp Val Val Ile Ser Gly Asn Lys Gly  
 675 680 685  
 Arg Val Glu Phe Lys Asp Asn Ile Ala Thr Arg Leu Tyr Val Glu Glu  
 690 695 700  
 Thr Val Glu Lys Val Glu Glu Val Glu Pro Ala Pro Glu Gln Lys Asp  
 705 710 715 720  
 Asn Asn Glu Leu Ser Phe Leu Gly Ser Val Glu Gln Ser Phe Ile Thr  
 725 730 735  
 Ala Ala Asn Gln Ala Leu Phe Ala Ser Glu Asp Gly Asp Leu Ser Pro  
 740 745 750  
 Glu Ser Ser Ile Ser Ser Glu Glu Leu Ala Lys Arg Arg Glu Cys Ala  
 755 760 765  
 Gly Gly Ala Asp Ser Ser Arg Ser Gly Cys  
 770 775

&lt;210&gt; 194

&lt;211&gt; 948

&lt;212&gt; PRT

&lt;213&gt; Chlamydia

&lt;400&gt; 194

Met Ala Ser Met His His His His His Val Lys Ile Glu Asn Phe  
 1 5 10 15  
 Ser Gly Gln Gly Ile Phe Ser Gly Asn Lys Ala Ile Asp Asn Thr Thr  
 20 25 30  
 Glu Gly Ser Ser Ser Lys Ser Asn Val Leu Gly Gly Ala Val Tyr Ala  
 35 40 45  
 Lys Thr Leu Phe Asn Leu Asp Ser Gly Ser Ser Arg Thr Val Thr  
 50 55 60  
 Phe Ser Gly Asn Thr Val Ser Ser Gln Ser Thr Thr Gly Gln Val Ala  
 65 70 75 80  
 Gly Gly Ala Ile Tyr Ser Pro Thr Val Thr Ile Ala Thr Pro Val Val  
 85 90 95  
 Phe Ser Lys Asn Ser Ala Thr Asn Asn Ala Asn Asn Ala Thr Asp Thr  
 100 105 110

Gln	Arg	Lys	Asp	Thr	Phe	Gly	Gly	Ala	Ile	Gly	Ala	Thr	Ser	Ala	Val
		115					120					125			
Ser	Leu	Ser	Gly	Gly	Ala	His	Phe	Leu	Glu	Asn	Val	Ala	Asp	Leu	Gly
	130					135					140				
Ser	Ala	Ile	Gly	Leu	Val	Pro	Asp	Thr	Gln	Asn	Thr	Glu	Thr	Val	Lys
145					150					155					160
Leu	Glu	Ser	Gly	Ser	Tyr	Tyr	Phe	Glu	Lys	Asn	Lys	Ala	Leu	Lys	Arg
				165					170					175	
Ala	Thr	Ile	Tyr	Ala	Pro	Val	Val	Ser	Ile	Lys	Ala	Tyr	Thr	Ala	Thr
			180				185						190		
Phe	Asn	Gln	Asn	Arg	Ser	Leu	Glu	Glu	Gly	Ser	Ala	Ile	Tyr	Phe	Thr
	195					200						205			
Lys	Glu	Ala	Ser	Ile	Glu	Ser	Leu	Gly	Ser	Val	Leu	Phe	Thr	Gly	Asn
	210					215					220				
Leu	Val	Thr	Pro	Thr	Leu	Ser	Thr	Thr	Thr	Glu	Gly	Thr	Pro	Ala	Thr
225					230					235					240
Thr	Ser	Gly	Asp	Val	Thr	Lys	Tyr	Gly	Ala	Ala	Ile	Phe	Gly	Gln	Ile
				245					250					255	
Ala	Ser	Ser	Asn	Gly	Ser	Gln	Thr	Asp	Asn	Leu	Pro	Leu	Lys	Leu	Ile
			260					265					270		
Ala	Ser	Gly	Gly	Asn	Ile	Cys	Phe	Arg	Asn	Asn	Glu	Tyr	Arg	Pro	Thr
		275					280					285			
Ser	Ser	Asp	Thr	Gly	Thr	Ser	Thr	Phe	Cys	Ser	Ile	Ala	Gly	Asp	Val
	290					295					300				
Lys	Leu	Thr	Met	Gln	Ala	Ala	Lys	Gly	Lys	Thr	Ile	Ser	Phe	Phe	Asp
305				310						315					320
Ala	Ile	Arg	Thr	Ser	Thr	Lys	Lys	Thr	Gly	Thr	Gln	Ala	Thr	Ala	Tyr
				325					330					335	
Asp	Thr	Leu	Asp	Ile	Asn	Lys	Ser	Glu	Asp	Ser	Glu	Thr	Val	Asn	Ser
			340					345					350		
Ala	Phe	Thr	Gly	Thr	Ile	Leu	Phe	Ser	Ser	Glu	Leu	His	Glu	Asn	Lys
	355					360						365			
Ser	Tyr	Ile	Pro	Gln	Asn	Val	Val	Leu	His	Ser	Gly	Ser	Leu	Val	Leu
	370				375						380				
Lys	Pro	Asn	Thr	Glu	Leu	His	Val	Ile	Ser	Phe	Glu	Gln	Lys	Glu	Gly
385				390						395					400
Ser	Ser	Leu	Val	Met	Thr	Pro	Gly	Ser	Val	Leu	Ser	Asn	Gln	Thr	Val
				405					410					415	
Ala	Asp	Gly	Ala	Leu	Val	Ile	Asn	Asn	Met	Thr	Ile	Asp	Leu	Ser	Ser
			420					425					430		
Val	Glu	Lys	Asn	Gly	Ile	Ala	Glu	Gly	Asn	Ile	Phe	Thr	Pro	Pro	Glu
		435					440					445			
Leu	Arg	Ile	Ile	Asp	Thr	Thr	Thr	Ser	Gly	Ser	Gly	Gly	Thr	Pro	Ser
	450					455					46				

545                      550                      555                      560  
 Leu Leu Val Leu Pro Thr Asp Ser Ser Lys Met Gln Ala Gln Lys Ile  
                                  565                      570                      575  
 Val Leu Thr Gly Asp Ile Ala Pro Gln Lys Gly Tyr Thr Gly Thr Leu  
                                  580                      585                      590  
 Thr Leu Asp Pro Asp Gln Leu Gln Asn Gly Thr Ile Ser Ala Leu Trp  
                                  595                      600                      605  
 Lys Phe Asp Ser Tyr Arg Gln Trp Ala Tyr Val Pro Arg Asp Asn His  
                                  610                      615                      620  
 Phe Tyr Ala Asn Ser Ile Leu Gly Ser Gln Met Ser Met Val Thr Val  
 625                      630                      635                      640  
 Lys Gln Gly Leu Leu Asn Asp Lys Met Asn Leu Ala Arg Phe Asp Glu  
                                  645                      650                      655  
 Val Ser Tyr Asn Asn Leu Trp Ile Ser Gly Leu Gly Thr Met Leu Ser  
                                  660                      665                      670  
 Gln Val Gly Thr Pro Thr Ser Glu Phe Thr Tyr Tyr Ser Arg Gly  
                                  675                      680                      685  
 Ala Ser Val Ala Leu Asp Ala Lys Pro Ala His Asp Val Ile Val Gly  
                                  690                      695                      700  
 Ala Ala Phe Ser Lys Met Ile Gly Lys Thr Lys Ser Leu Lys Arg Glu  
 705                      710                      715                      720  
 Asn Asn Tyr Thr His Lys Gly Ser Glu Tyr Ser Tyr Gln Ala Ser Val  
                                  725                      730                      735  
 Tyr Gly Gly Lys Pro Phe His Phe Val Ile Asn Lys Lys Thr Glu Lys  
                                  740                      745                      750  
 Ser Leu Pro Leu Leu Leu Gln Gly Val Ile Ser Tyr Gly Tyr Ile Lys  
                                  755                      760                      765  
 His Asp Thr Val Thr His Tyr Pro Thr Ile Arg Glu Arg Asn Gln Gly  
                                  770                      775                      780  
 Glu Trp Glu Asp Leu Gly Trp Leu Thr Ala Leu Arg Val Ser Ser Val  
 785                      790                      795                      800  
 Leu Arg Thr Pro Ala Gln Gly Asp Thr Lys Arg Ile Thr Val Tyr Gly  
                                  805                      810                      815  
 Glu Leu Glu Tyr Ser Ser Ile Arg Gln Lys Gln Phe Thr Glu Thr Glu  
                                  820                      825                      830  
 Tyr Asp Pro Arg Tyr Phe Asp Asn Cys Thr Tyr Arg Asn Leu Ala Ile  
                                  835                      840                      845  
 Pro Met Gly Leu Ala Phe Glu Gly Glu Leu Ser Gly Asn Asp Ile Leu  
                                  850                      855                      860  
 Met Tyr Asn Arg Phe Ser Val Ala Tyr Met Pro Ser Ile Tyr Arg Asn  
 865                      870                      875                      880  
 Ser Pro Thr Cys Lys Tyr Gln Val Leu Ser Ser Gly Glu Gly Gly Glu  
                                  885                      890                      895  
 Ile Ile Cys Gly Val Pro Thr Arg Asn Ser Ala Arg Gly Glu Tyr Ser  
                                  900                      905                      910  
 Thr Gln Leu Tyr Pro Gly Pro Leu Trp Thr Leu Tyr Gly Ser Tyr Thr  
                                  915                      920                      925  
 Ile Glu Ala Asp Ala His Thr Leu Ala His Met Met Asn Cys Gly Ala  
                                  930                      935                      940  
 Arg Met Thr Phe  
 945

&lt;210&gt; 195

&lt;211&gt; 821

&lt;212&gt; PRT

<400> 195

Met	His	His	His	His	His	His	Glu	Ala	Ser	Ser	Ile	Gln	Asp	Gln	Ile
1				5					10					15	
Lys	Asn	Thr	Asp	Cys	Asn	Val	Ser	Lys	Val	Gly	Tyr	Ser	Thr	Ser	Gln
			20					25					30		
Ala	Phe	Thr	Asp	Met	Met	Leu	Ala	Asp	Asn	Thr	Glu	Tyr	Arg	Ala	Ala
		35					40					45			
Asp	Ser	Val	Ser	Phe	Tyr	Asp	Phe	Ser	Thr	Ser	Ser	Gly	Leu	Pro	Arg
	50					55					60				
Lys	His	Leu	Ser	Ser	Ser	Ser	Glu	Ala	Ser	Pro	Thr	Thr	Glu	Gly	Val
65					70					75					80
Ser	Ser	Ser	Ser	Ser	Gly	Glu	Asn	Thr	Glu	Asn	Ser	Gln	Asp	Ser	Ala
				85					90					95	
Pro	Ser	Ser	Gly	Glu	Thr	Asp	Lys	Lys	Thr	Glu	Glu	Glu	Leu	Asp	Asn
			100					105					110		
Gly	Gly	Ile	Ile	Tyr	Ala	Arg	Glu	Lys	Leu	Thr	Ile	Ser	Glu	Ser	Gln
		115					120					125			
Asp	Ser	Leu	Ser	Asn	Pro	Ser	Ile	Glu	Leu	His	Asp	Asn	Ser	Phe	Phe
	130					135					140				
Phe	Gly	Glu	Gly	Glu	Val	Ile	Phe	Asp	His	Arg	Val	Ala	Leu	Lys	Asn
145					150					155					160
Gly	Gly	Ala	Ile	Tyr	Gly	Glu	Lys	Glu	Val	Val	Phe	Glu	Asn	Ile	Lys
			165					170						175	
Ser	Leu	Leu	Val	Glu	Val	Asn	Ile	Ser	Val	Glu	Lys	Gly	Gly	Ser	Val
			180					185					190		
Tyr	Ala	Lys	Glu	Arg	Val	Ser	Leu	Glu	Asn	Val	Thr	Glu	Ala	Thr	Phe
		195					200					205			
Ser	Ser	Asn	Gly	Gly	Glu	Gln	Gly	Gly	Gly	Gly	Ile	Tyr	Ser	Glu	Gln
	210					215					220				
Asp	Met	Leu	Ile	Ser	Asp	Cys	Asn	Asn	Val	His	Phe	Gln	Gly	Asn	Ala
225					230					235					240
Ala	Gly	Ala	Thr	Ala	Val	Lys	Gln	Cys	Leu	Asp	Glu	Glu	Met	Ile	Val
				245					250					255	
Leu	Leu	Thr	Glu	Cys	Val	Asp	Ser	Leu	Ser	Glu	Asp	Thr	Leu	Asp	Ser
			260					265					270		
Thr	Pro	Glu	Thr	Glu	Gln	Thr	Lys	Ser	Asn	Gly	Asn	Gln	Asp	Gly	Ser
		275					280					285			
Ser	Glu	Thr	Lys	Asp	Thr	Gln	Val	Ser	Glu	Ser	Pro	Glu	Ser	Thr	Pro
	290					295					300				
Ser	Pro	Asp	Asp	Val	Leu	Gly	Lys	Gly	Gly	Gly	Ile	Tyr	Thr	Glu	Lys
305					310					315					320
Ser	Leu	Thr	Ile	Thr	Gly	Ile	Thr	Gly	Thr	Ile	Asp	Phe	Val	Ser	Asn
				325					330					335	
Ile	Ala	Thr	Asp	Ser	Gly	Ala	Gly	Val	Phe	Thr	Lys	Glu	Asn	Leu	Ser
			340					345					350		
Cys	Thr	Asn	Thr	Asn	Ser	Leu	Gln								



Leu Ser Leu Ser Asn Leu Lys Thr Val Thr Leu Thr Lys Asn Ser Ala  
 420 425 430  
 Lys Glu Ser Gly Gly Ala Ile Phe Thr Asp Leu Ala Ser Ile Pro Thr  
 435 440 445  
 Thr Asp Thr Pro Glu Ser Ser Thr Pro Ser Ser Ser Pro Ala Ser  
 450 455 460  
 Thr Pro Glu Val Val Ala Ser Ala Lys Ile Asn Arg Phe Phe Ala Ser  
 465 470 475 480  
 Thr Ala Glu Pro Ala Ala Pro Ser Leu Thr Glu Ala Glu Ser Asp Gln  
 485 490 495  
 Thr Asp Gln Thr Glu Thr Ser Asp Thr Asn Ser Asp Ile Asp Val Ser  
 500 505 510  
 Ile Glu Asn Ile Leu Asn Val Ala Ile Asn Gln Asn Thr Ser Ala Lys  
 515 520 525  
 Lys Gly Gly Ala Ile Tyr Gly Lys Lys Ala Lys Leu Ser Arg Ile Asn  
 530 535 540  
 Asn Leu Glu Leu Ser Gly Asn Ser Ser Gln Asp Val Gly Gly Gly Leu  
 545 550 555 560  
 Cys Leu Thr Glu Ser Val Glu Phe Asp Ala Ile Gly Ser Leu Leu Ser  
 565 570 575  
 His Tyr Asn Ser Ala Ala Lys Glu Gly Gly Val Ile His Ser Lys Thr  
 580 585 590  
 Val Thr Leu Ser Asn Leu Lys Ser Thr Phe Thr Phe Ala Asp Asn Thr  
 595 600 605  
 Val Lys Ala Ile Val Glu Ser Thr Pro Glu Ala Pro Glu Glu Ile Pro  
 610 615 620  
 Pro Val Glu Gly Glu Glu Ser Thr Ala Thr Glu Asn Pro Asn Ser Asn  
 625 630 635 640  
 Thr Glu Gly Ser Ser Ala Asn Thr Asn Leu Glu Gly Ser Gln Gly Asp  
 645 650 655  
 Thr Ala Asp Thr Gly Thr Gly Val Val Asn Asn Glu Ser Gln Asp Thr  
 660 665 670  
 Ser Asp Thr Gly Asn Ala Glu Ser Gly Glu Gln Leu Gln Asp Ser Thr  
 675 680 685  
 Gln Ser Asn Glu Glu Asn Thr Leu Pro Asn Ser Ser Ile Asp Gln Ser  
 690 695 700  
 Asn Glu Asn Thr Asp Glu Ser Ser Asp Ser His Thr Glu Glu Ile Thr  
 705 710 715 720  
 Asp Glu Ser Val Ser Ser Ser Ser Lys Ser Gly Ser Ser Thr Pro Gln  
 725 730 735  
 Asp Gly Gly Ala Ala Ser Ser Gly Ala Pro Ser Gly Asp Gln Ser Ile  
 740 745 750  
 Ser Ala Asn Ala Cys Leu Ala Lys Ser Tyr Ala Ala Ser Thr Asp Ser  
 755 760 765  
 Ser Pro Val Ser Asn Ser Ser Gly Ser Asp Val Thr Ala Ser Ser Asp  
 770 775 780  
 Asn Pro Asp Ser Ser Ser Ser Gly Asp Ser Ala Gly Asp Ser Glu Gly  
 785 790 795 800  
 Pro Thr Glu Pro Glu Ala Gly Ser Thr Thr Glu Thr Pro Thr Leu Ile  
 805 810 815  
 Gly Gly Gly Ala Ile  
 820

&lt;210&gt; 196

&lt;211&gt; 525

&lt;212&gt; PRT

&lt;213&gt; Chlamydia

&lt;400&gt; 196

Met.	His	His	His	His	His	His	His	Thr	Ala	Ala	Ser	Asp	Asn	Phe	Gln	Leu
1				5						10					15	
Ser	Gln	Gly	Gly	Gln	Gly	Phe	Ala	Ile	Pro	Ile	Gly	Gln	Ala	Met	Ala	
			20					25					30			
Ile	Ala	Gly	Gln	Ile	Lys	Leu	Pro	Thr	Val	His	Ile	Gly	Pro	Thr	Ala	
		35				40					45					
Phe	Leu	Gly	Leu	Gly	Val	Val	Asp	Asn	Asn	Gly	Asn	Gly	Ala	Arg	Val	
	50				55					60						
Gln	Arg	Val	Val	Gly	Ser	Ala	Pro	Ala	Ala	Ser	Leu	Gly	Ile	Ser	Thr	
65					70					75					80	
Gly	Asp	Val	Ile	Thr	Ala	Val	Asp	Gly	Ala	Pro	Ile	Asn	Ser	Ala	Thr	
			85					90						95		
Ala	Met	Ala	Asp	Ala	Leu	Asn	Gly	His	His	Pro	Gly	Asp	Val	Ile	Ser	
			100					105					110			
Val	Thr	Trp	Gln	Thr	Lys	Ser	Gly	Gly	Thr	Arg	Thr	Gly	Asn	Val	Thr	
		115					120					125				
Leu	Ala	Glu	Gly	Pro	Pro	Ala	Glu	Phe	Pro	Leu	Val	Pro	Arg	Gly	Ser	
	130					135				140						
Pro	Leu	Pro	Val	Gly	Asn	Pro	Ala	Glu	Pro	Ser	Leu	Leu	Ile	Asp	Gly	
145					150					155				160		
Thr	Met	Trp	Glu	Gly	Ala	Ser	Gly	Asp	Pro	Cys	Asp	Pro	Cys	Ala	Thr	
			165					170					175			
Trp	Cys	Asp	Ala	Ile	Ser	Ile	Arg	Ala	Gly	Tyr	Tyr	Gly	Asp	Tyr	Val	
			180					185					190			
Phe	Asp	Arg	Val	Leu	Lys	Val	Asp	Val	Asn	Lys	Thr	Phe	Ser	Gly	Met	
	195						200					205				
Ala	Ala	Thr	Pro	Thr	Gln	Ala	Ile	Gly	Asn	Ala	Ser	Asn	Thr	Asn	Gln	
	210					215						220				
Pro	Glu	Ala	Asn	Gly	Arg	Pro	Asn	Ile	Ala	Tyr	Gly	Arg	His	Met	Gln	
225					230					235					240	
Asp	Ala	Glu	Trp	Phe	Ser	Asn	Ala	Ala	Phe	Leu	Ala	Leu	Asn	Ile	Trp	
			245						250				255			
Asp	Arg	Phe	Asp	Ile	Phe	Cys	Thr	Leu	Gly	Ala	Ser	Asn	Gly	Tyr	Phe	
		260						265					270			
Lys	Ala	Ser	Ser	Ala	Ala	Phe	Asn	Leu	Val	Gly	Leu	Ile	Gly	Phe	Ser	
	275						280					285				
Ala	Ala	Ser	Ser	Ile	Ser	Thr	Asp	Leu	Pro	Met	Gln	Leu	Pro	Asn	Val	
	290					295					300					
Gly	Ile	Thr	Gln	Gly	Val	Val	Glu	Phe	Tyr	Thr	Asp	Thr	Ser	Phe	Ser	
305					310					315					320	
Trp	Ser	Val	Gly	Ala	Arg	Gly	Ala	Leu	Trp	Glu	Cys	Gly	Cys	Ala	Thr	
			325						330				335			
Leu	Gly	Ala	Glu	Phe	Gln	Tyr	Ala	Gln	Ser	Asn	Pro	Lys	Ile	Glu	Met	
		340						345					350			
Leu	Asn	Val	Thr	Ser	Ser	Pro	Ala	Gln	Phe	Val	Ile	His	Lys	Pro	Arg	
	355						360					365				
Gly	Tyr	Lys	Gly	Ala	Ser	Ser	Asn	Phe	Pro	Leu	Pro	Ile	Thr	Ala	Gly	
	370					375						380				
Thr	Thr	Glu	Ala	Thr	Asp	Thr	Lys	Ser	Ala	Thr	Ile	Lys	Tyr	His	Glu	
385				390						395					400	
Trp	Gln	Val	Gly	Leu	Ala	Leu	Ser	Tyr	Arg	Leu	Asn	Met	Leu	Val	Pro	

				405					410					415	
Tyr	Ile	Gly	Val	Asn	Trp	Ser	Arg	Ala	Thr	Phe	Asp	Ala	Asp	Thr	Ile
				420				425					430		
Arg	Ile	Ala	Gln	Pro	Lys	Leu	Lys	Ser	Glu	Ile	Leu	Asn	Ile	Thr	Thr
		435					440					445			
Trp	Asn	Pro	Ser	Leu	Ile	Gly	Ser	Thr	Thr	Ala	Leu	Pro	Asn	Asn	Ser
	450					455					460				
Gly	Lys	Asp	Val	Leu	Ser	Asp	Val	Leu	Gln	Ile	Ala	Ser	Ile	Gln	Ile
465					470				475					480	
Asn	Lys	Met	Lys	Ser	Arg	Lys	Ala	Cys	Gly	Val	Ala	Val	Gly	Ala	Thr
			485					490					495		
Leu	Ile	Asp	Ala	Asp	Lys	Trp	Ser	Ile	Thr	Gly	Glu	Ala	Arg	Leu	Ile
		500					505						510		
Asn	Glu	Arg	Ala	Ala	His	Met	Asn	Ala	Gln	Phe	Arg	Phe			
	515					520					525				

&lt;210&gt; 197

&lt;211&gt; 43

&lt;212&gt; DNA

&lt;213&gt; Chlamydia

&lt;400&gt; 197

gataggcgcg cgcgaatcat gaaatttatg tcagctactg ctg

43

&lt;210&gt; 198

&lt;211&gt; 34

&lt;212&gt; DNA

&lt;213&gt; Chlamydia

&lt;400&gt; 198

cagaacgcgt ttagaatgtc atacgagcac cgca

34

&lt;210&gt; 199

&lt;211&gt; 6

&lt;212&gt; DNA

&lt;213&gt; Chlamydia

&lt;400&gt; 199

gcaatc

6

&lt;210&gt; 200

&lt;211&gt; 34

&lt;212&gt; DNA

&lt;213&gt; Chlamydia

&lt;400&gt; 200

tgcaatcatg agttcgcaga aagatataaa aagc

34

&lt;210&gt; 201

&lt;211&gt; 38

&lt;212&gt; DNA

&lt;213&gt; Chlamydia

&lt;400&gt; 201

cagagctagc ttaaaagatc aatcgcaatc cagtattc

38

<210> 202  
 <211> 5  
 <212> DNA  
 <213> Chlamydia

<400> 202  
 caatc

5

<210> 203  
 <211> 31  
 <212> DNA  
 <213> Chlamydia

<400> 203  
 tgcaatcatg aaaaaagcgt ttttcttttt c

31

<210> 204  
 <211> 31  
 <212> DNA  
 <213> Chlamydia

<400> 204  
 cagaacgcgt ctagaatcgc agagcaattt c

31

<210> 205  
 <211> 30  
 <212> DNA  
 <213> Chlamydia

<400> 205  
 gtgcaatcat gattcctcaa ggaatttacg

30

<210> 206  
 <211> 31  
 <212> DNA  
 <213> Chlamydia

<400> 206  
 cagaacgcgt ttagaaccgg actttacttc c

31

<210> 207  
 <211> 50  
 <212> DNA  
 <213> Chlamydia

<400> 207  
 cagacatatg catcaccatc accatcacga ggcgagctcg atccaagatc

50

<210> 208  
 <211> 40  
 <212> DNA  
 <213> Chlamydia

<400> 208

cagaggtacc tcagatagca ctctctccta ttaaagtagg 40

<210> 209

<211> 55

<212> DNA

<213> Chlamydia

<400> 209

cagagctagc atgcatcacc atcaccatca cgtaagatt gagaacttct ctggc 55

<210> 210

<211> 35

<212> DNA

<213> Chlamydia

<400> 210

cagaggtacc ttagaatgtc atacgagcac cgcag 35

<210> 211

<211> 36

<212> DNA

<213> Chlamydia

<400> 211

cagacatag catcaccatc accatcacgg gttagc 36

<210> 212

<211> 35

<212> DNA

<213> Chlamydia

<400> 212

cagaggtacc tcagctcctc cagcacactc tcttc 35

<210> 213

<211> 51

<212> DNA

<213> Chlamydia

<400> 213

cagagctagc catcaccatc accatcacgg tgctatttct tgcttacgtg g 51

<210> 214

<211> 38

<212> DNA

<213> Chlamydia

<400> 214

cagaggtact taaaagatca atcgcaatcc agtatttcg 38

<210> 215

<211> 48

<212> DNA

<213> Chlamydia

<400> 215  
cagaggatcc acatcaccat caccatcacg gactagctag agaggttc

48

<210> 216  
<211> 31  
<212> DNA  
<213> Chlamydia

<400> 216  
cagagaattc ctagaatcgc agagcaattt c

31

<210> 217  
<211> 7  
<212> DNA  
<213> Chlamydia

<400> 217  
tgcaatc

7

<210> 218  
<211> 22  
<212> PRT  
<213> Chlamydia

<400> 218  
Met Ala Ser Met Thr Gly Gly Gln Gln Met Gly Arg Asp Ser Ser Leu  
1 5 10 15  
Val Pro Ser Ser Asp Pro  
20

<210> 219  
<211> 51  
<212> DNA  
<213> Chlamydia

<400> 219  
cagaggatcc gcacacat caccatcaca tgattcctca aggaatttac g

51

<210> 220  
<211> 33  
<212> DNA  
<213> Chlamydia

<400> 220  
cagagcggcc gcttagaacc ggactttact tcc

33

<210> 221  
<211> 24  
<212> PRT  
<213> Chlamydia

<400> 221  
Met Ala Ser Met Thr Gly Gly Gln Gln Asn Gly Arg Asp Ser Ser Leu  
1 5 10 15  
Val Pro His His His His His

20

<210> 222  
 <211> 46  
 <212> DNA  
 <213> Chlamydia

<400> 222  
 cagagctagc catcaccatc accatcacct ctttgccag gatccc

46

<210> 223  
 <211> 30  
 <212> DNA  
 <213> Chlamydia

<400> 223  
 cagaactagt ctagaacctg taagtgggcc

30

<210> 224  
 <211> 20  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Made in a lab

<400> 224  
 Met Ser Gln Lys Asn Lys Asn Ser Ala Phe Met His Pro Val Asn Ile  
 1 5 10 15  
 Ser Thr Asp Leu  
 20

<210> 225  
 <211> 20  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Made in a lab

<400> 225  
 Lys Asn Ser Ala Phe Met His Pro Val Asn Ile Ser Thr Asp Leu Ala  
 1 5 10 15  
 Val Ile Val Gly  
 20

<210> 226  
 <211> 20  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Made in a lab

<400> 226

His Pro Val Asn Ile Ser Thr Asp Leu Ala Val Ile Val Gly Lys Gly  
 1 5 10 15  
 Pro Met Pro Arg  
 20

<210> 227  
 <211> 20  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Made in a lab

<400> 227  
 Ser Thr Asp Leu Ala Val Ile Val Gly Lys Gly Pro Met Pro Arg Thr  
 1 5 10 15  
 Glu Ile Val Lys  
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<210> 228  
 <211> 20  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Made in a lab

<400> 228  
 Val Ile Val Gly Lys Gly Pro Met Pro Arg Thr Glu Ile Val Lys Lys  
 1 5 10 15  
 Val Trp Glu Tyr  
 20

<210> 229  
 <211> 20  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Made in a lab

<400> 229  
 Gly Pro Met Pro Arg Thr Glu Ile Val Lys Lys Val Trp Glu Tyr Ile  
 1 5 10 15  
 Lys Lys His Asn  
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<210> 230  
 <211> 20  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Made in a lab



&lt;400&gt; 230

Ile Lys Lys His Asn Cys Gln Asp Gln Lys Asn Lys Arg Asn Ile Leu  
 1 5 10 15  
 Pro Asp Ala Asn  
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&lt;210&gt; 231

&lt;211&gt; 20

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; Made in a lab

&lt;400&gt; 231

Asn Cys Gln Asp Gln Lys Asn Lys Arg Asn Ile Leu Pro Asp Ala Asn  
 1 5 10 15  
 Leu Ala Lys Val  
 20

&lt;210&gt; 232

&lt;211&gt; 20

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; Made in a lab

&lt;400&gt; 232

Lys Asn Lys Arg Asn Ile Leu Pro Asp Ala Asn Leu Ala Lys Val Phe  
 1 5 10 15  
 Gly Ser Ser Asp  
 20

&lt;210&gt; 233

&lt;211&gt; 20

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; Made in a lab

&lt;400&gt; 233

Ile Leu Pro Asp Ala Asn Leu Ala Lys Val Phe Gly Ser Ser Asp Pro  
 1 5 10 15  
 Ile Asp Met Phe  
 20

&lt;210&gt; 234

&lt;211&gt; 20

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; Made in a lab

&lt;400&gt; 234

Asn Leu Ala Lys Val Phe Gly Ser Ser Asp Pro Ile Asp Met Phe Gln  
 1 5 10 15  
 Met Thr Lys Ala  
 20

&lt;210&gt; 235

&lt;211&gt; 22

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; Made in a lab

&lt;400&gt; 235

Phe Gly Ser Ser Asp Pro Ile Asp Met Phe Gln Met Thr Lys Ala Leu  
 1 5 10 15  
 Ser Lys His Ile Val Lys  
 20

&lt;210&gt; 236

&lt;211&gt; 20

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; Made in a lab

&lt;400&gt; 236

Val Glu Ile Thr Gln Ala Val Pro Lys Tyr Ala Thr Val Gly Ser Pro  
 1 5 10 15  
 Tyr Pro Val Glu  
 20

&lt;210&gt; 237

&lt;211&gt; 20

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; Made in a lab

&lt;400&gt; 237

Ala Val Pro Lys Tyr Ala Thr Val Gly Ser Pro Tyr Pro Val Glu Ile  
 1 5 10 15  
 Thr Ala Thr Gly  
 20

&lt;210&gt; 238

&lt;211&gt; 20

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

<223> Made in a lab

<400> 238

Ala	Thr	Val	Gly	Ser	Pro	Tyr	Pro	Val	Glu	Ile	Thr	Ala	Thr	Gly	Lys
1				5					10					15	
Arg	Asp	Cys	Val												
				20											

<210> 239

<211> 20

<212> PRT

<213> Artificial Sequence

<220>

<223> Made in a lab

<400> 239

Pro	Tyr	Pro	Val	Glu	Ile	Thr	Ala	Thr	Gly	Lys	Arg	Asp	Cys	Val	Asp
1				5					10					15	
Val	Ile	Ile	Thr												
				20											

<210> 240

<211> 21

<212> PRT

<213> Artificial Sequence

<220>

<223> Made in a lab

<400> 240

Ile	Thr	Ala	Thr	Gly	Lys	Arg	Asp	Cys	Val	Asp	Val	Ile	Ile	Thr	Gln
1				5					10					15	
Gln	Leu	Pro	Cys	Glu											
				20											

<210> 241

<211> 20

<212> PRT

<213> Artificial Sequence

<220>

<223> Made in a lab

<400> 241

Lys	Arg	Asp	Cys	Val	Asp	Val	Ile	Ile	Thr	Gln	Gln	Leu	Pro	Cys	Glu
1				5					10					15	
Ala	Glu	Phe	Val												
				20											

<210> 242

<211> 20

<212> PRT

<213> Artificial Sequence

&lt;220&gt;

&lt;223&gt; Made in a lab

&lt;400&gt; 242

Asp Val Ile Ile Thr Gln Gln Leu Pro Cys Glu Ala Glu Phe Val Arg  
 1 5 10 15  
 Ser Asp Pro Ala  
 20

&lt;210&gt; 243

&lt;211&gt; 20

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; Made in a lab

&lt;400&gt; 243

Thr Gln Gln Leu Pro Cys Glu Ala Glu Phe Val Arg Ser Asp Pro Ala  
 1 5 10 15  
 Thr Thr Pro Thr  
 20

&lt;210&gt; 244

&lt;211&gt; 20

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; Made in a lab

&lt;400&gt; 244

Cys Glu Ala Glu Phe Val Arg Ser Asp Pro Ala Thr Thr Pro Thr Ala  
 1 5 10 15  
 Asp Gly Lys Leu  
 20

&lt;210&gt; 245

&lt;211&gt; 20

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; Made in a lab

&lt;400&gt; 245

Val Arg Ser Asp Pro Ala Thr Thr Pro Thr Ala Asp Gly Lys Leu Val  
 1 5 10 15  
 Trp Lys Ile Asp  
 20

&lt;210&gt; 246

&lt;211&gt; 20

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

<220>

<223> Made in a lab

<400> 246

Ala	Thr	Thr	Pro	Thr	Ala	Asp	Gly	Lys	Leu	Val	Trp	Lys	Ile	Asp	Arg
1				5					10					15	
Leu	Gly	Gln	Gly												
				20											

<210> 247

<211> 20

<212> PRT

<213> Artificial Sequence

<220>

<223> Made in a lab

<400> 247

Ala	Asp	Gly	Lys	Leu	Val	Trp	Lys	Ile	Asp	Arg	Leu	Gly	Gln	Gly	Glu
1				5					10					15	
Lys	Ser	Lys	Ile												
				20											

<210> 248

<211> 20

<212> PRT

<213> Artificial Sequence

<220>

<223> Made in a lab

<400> 248

Val	Trp	Lys	Ile	Asp	Arg	Leu	Gly	Gln	Gly	Glu	Lys	Ser	Lys	Ile	Thr
1				5					10					15	
Val	Trp	Val	Lys												
				20											

<210> 249

<211> 20

<212> PRT

<213> Artificial Sequence

<220>

<223> Made in a lab

<400> 249

Arg	Leu	Gly	Gln	Gly	Glu	Lys	Ser	Lys	Ile	Thr	Val	Trp	Val	Lys	Pro
1				5					10					15	
Leu	Lys	Glu	Gly												
				20											

<210> 250

<211> 20

<212> PRT

<213> Artificial Sequence

<220>

<223> Made in a lab

<400> 250

Gly Glu Lys Ser Lys Ile Thr Val Trp Val Lys Pro Leu Lys Glu Gly  
 1 5 10 15  
 Cys Cys Phe Thr  
 20

<210> 251

<211> 16

<212> PRT

<213> Artificial Sequence

<220>

<223> Made in a lab

<400> 251

Gly Glu Lys Ser Lys Ile Thr Val Trp Val Lys Pro Leu Lys Glu Gly  
 1 5 10 15

<210> 252

<211> 12

<212> PRT

<213> Artificial Sequence

<220>

<223> Made in a lab

<400> 252

Lys Ile Thr Val Trp Val Lys Pro Leu Lys Glu Gly  
 1 5 10

<210> 253

<211> 16

<212> PRT

<213> Artificial Sequence

<220>

<223> Made in a lab

<400> 253

Gly Asp Lys Cys Lys Ile Thr Val Trp Val Lys Pro Leu Lys Glu Gly  
 1 5 10 15

<210> 254

<211> 20

<212> PRT

<213> Artificial Sequence

<220>

<223> Made in a lab

&lt;400&gt; 254

Thr Glu Tyr Pro Leu Leu Ala Asp Pro Ser Phe Lys Ile Ser Glu Ala  
 1 5 10 15  
 Phe Gly Val Leu  
 20

&lt;210&gt; 255

&lt;211&gt; 20

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; Made in a lab

&lt;400&gt; 255

Leu Ala Asp Pro Ser Phe Lys Ile Ser Glu Ala Phe Gly Val Leu Asn  
 1 5 10 15  
 Pro Glu Gly Ser  
 20

&lt;210&gt; 256

&lt;211&gt; 20

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; Made in a lab

&lt;400&gt; 256

Phe Lys Ile Ser Glu Ala Phe Gly Val Leu Asn Pro Glu Gly Ser Leu  
 1 5 10 15  
 Ala Leu Arg Ala  
 20

&lt;210&gt; 257

&lt;211&gt; 20

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; Made in a lab

&lt;400&gt; 257

Ala Phe Gly Val Leu Asn Pro Glu Gly Ser Leu Ala Leu Arg Ala Thr  
 1 5 10 15  
 Phe Leu Ile Asp  
 20

&lt;210&gt; 258

&lt;211&gt; 20

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; Made in a lab

&lt;400&gt; 258

Asn	Pro	Glu	Gly	Ser	Leu	Ala	Leu	Arg	Ala	Thr	Phe	Leu	Ile	Asp	Lys
1				5				10						15	
His	Gly	Val	Ile												
			20												

&lt;210&gt; 259

&lt;211&gt; 20

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; Made in a lab

&lt;400&gt; 259

Leu	Ala	Leu	Arg	Ala	Thr	Phe	Leu	Ile	Asp	Lys	His	Gly	Val	Ile	Arg
1				5				10						15	
His	Ala	Val	Ile												
			20												

&lt;210&gt; 260

&lt;211&gt; 20

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; Made in a lab

&lt;400&gt; 260

Thr	Phe	Leu	Ile	Asp	Lys	His	Gly	Val	Ile	Arg	His	Ala	Val	Ile	Asn
1				5				10						15	
Asp	Leu	Pro	Leu												
			20												

&lt;210&gt; 261

&lt;211&gt; 20

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; Made in a lab

&lt;400&gt; 261

Lys	His	Gly	Val	Ile	Arg	His	Ala	Val	Ile	Asn	Asp	Leu	Pro	Leu	Gly
1				5				10						15	
Arg	Ser	Ile	Asp												
			20												

&lt;210&gt; 262

&lt;211&gt; 20

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;



<223> Made in a lab

<400> 262

Arg His Ala Val Ile Asn Asp Leu Pro Leu Gly Arg Ser Ile Asp Glu  
 1 5 10 15  
 Glu Leu Arg Ile  
 20

<210> 263

<211> 897

<212> DNA

<213> Chlamydia

<220>

<221> misc\_feature

<222> (1)...(897)

<223> n = A,T,C or G

<400> 263

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attaaggttg	ccaagtctgc	tgcggaattg	accgcaaata	ttttggaaca	agctggaggc	180
gcgggctctt	ccgcacacat	tacagcttcc	caagtgtcca	aaggattagg	ggatgcgaga	240
actggtgtcg	ctttagggaa	tgcctttaac	ggagcgttgc	caggaacagt	tcaaagtgcg	300
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ctcacagcag	atctttgtgt	gtctcataag	cgcagagcgg	ctgcggctgt	ctgtagcatc	420
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gcnnaaagag	cagattgcga	agcccgtgc	gctcgtattg	cgagagaaga	gtcgttactc	660
gaagtgcgag	gagagyaaaa	tgcttgccag	aagaaagtcg	ctggagagaa	agccaagacg	720
ttcacgcgca	tcaagtatgc	actcctcact	atgctcgaga	agtttttgya	atgcgttgcc	780
gacgttttca	aattgggtgcc	gctgcctatt	acaatgggta	ttcgtgcgat	tgtggctgct	840
ggatgtacgt	tcacttctgc	aattattgga	ttgtgcactt	tctgcgccag	agcataa	897

<210> 264

<211> 298

<212> PRT

<213> Chlamydia

<220>

<221> VARIANT

<222> (1)...(298)

<223> Xaa = Any Amino Acid

<400> 264

Met	Ala	Ser	Ile	Cys	Gly	Arg	Leu	Gly	Ser	Gly	Thr	Gly	Asn	Ala	Leu
1				5				10					15		
Lys	Ala	Phe	Phe	Thr	Gln	Pro	Asn	Asn	Lys	Met	Ala	Arg	Val	Val	Asn
			20				25						30		
Lys	Thr	Lys	Gly	Val	Asp	Lys	Thr	Ile	Lys	Val	Ala	Lys	Ser	Ala	Ala
		35				40				45					
Glu	Leu	Thr	Ala	Asn	Ile	Leu	Glu	Gln	Ala	Gly	Gly	Ala	Gly	Ser	Ser
	50				55					60					
Ala	His	Ile	Thr	Ala	Ser	Gln	Val	Ser	Lys	Gly	Leu	Gly	Asp	Ala	Arg

65		70		75		80
Thr Val Val Ala Leu Gly Asn Ala Phe Asn Gly Ala Leu Pro Gly Thr						
	85		90		95	
Val Gln Ser Ala Gln Ser Phe Phe Ser His Met Lys Ala Ala Ser Gln						
	100		105		110	
Lys Thr Gln Glu Gly Asp Glu Gly Leu Thr Ala Asp Leu Cys Val Ser						
	115		120		125	
His Lys Arg Arg Ala Ala Ala Ala Val Cys Ser Ile Ile Gly Gly Ile						
	130		135		140	
Thr Tyr Leu Ala Thr Phe Gly Ala Ile Arg Pro Ile Leu Phe Val Asn						
	145		150		155	160
Lys Met Leu Ala Lys Pro Phe Leu Ser Ser Gln Thr Lys Ala Asn Met						
	165		170		175	
Gly Ser Ser Val Ser Tyr Ile Met Ala Ala Asn His Ala Ala Ser Val						
	180		185		190	
Val Gly Ala Gly Leu Ala Ile Ser Ala Xaa Arg Ala Asp Cys Glu Ala						
	195		200		205	
Arg Cys Ala Arg Ile Ala Arg Glu Glu Ser Leu Leu Glu Val Pro Gly						
	210		215		220	
Glu Glu Asn Ala Cys Glu Lys Lys Val Ala Gly Glu Lys Ala Lys Thr						
	225		230		235	240
Phe Thr Arg Ile Lys Tyr Ala Leu Leu Thr Met Leu Glu Lys Phe Leu						
	245		250		255	
Glu Cys Val Ala Asp Val Phe Lys Leu Val Pro Leu Pro Ile Thr Met						
	260		265		270	
Gly Ile Arg Ala Ile Val Ala Ala Gly Cys Thr Phe Thr Ser Ala Ile						
	275		280		285	
Ile Gly Leu Cys Thr Phe Cys Ala Arg Ala						
	290		295			

&lt;210&gt; 265

&lt;211&gt; 897

&lt;212&gt; DNA

&lt;213&gt; Chlamydia

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(897)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 265

atggccttcta	tatgcggacg	tttaggggtct	ggtacaggga	atgctctaaa	agctttttttt	60
acacagccca	acaataaaat	ggcaagggtta	gtaaataaga	cgaagggaat	ggataagact	120
attaagggttg	ccaagtctgc	tgccgaattg	accgcaaata	ttttggaaca	agctggagggc	180
gcggggtctct	ccgcacacat	tacagcttcc	caagtgtcca	aaggattagg	ggatgcgaga	240
actgttgctcg	ctttagggaa	tgcttttaac	ggagcgttgc	caggaacagt	tcaaagtgcg	300
caaagcttct	tctctcacat	gaaagctgct	agtcagaaaa	cgcaagaagg	ggatgagggg	360
ctcacagcag	atctttgtgt	gtctcataag	cgcagagcgg	ctgctggctgt	ctgtagcatc	420
atcggaggaa	ttacctacct	cgcgacattc	ggagctatcc	gtccgattct	gtttgtcaac	480
aaaatgctgg	caaaaccgtt	tctttcttcc	caaactaaag	caaatatggg	atcttctgtt	540
agctatatatta	tggcgggctaa	ccatgcacgc	tctgtgttgg	gtgctggact	cgctatcagt	600
gcgnaaagag	cagattgcga	agcccgtgc	gctcgtattg	cgagagaaga	gtcgttactc	660
gaagtgccgg	gagaggaaaa	tgcttgcgag	aagaaagtgc	ctggagagaa	agccaagacg	720
ttcacgcgca	tcaagtatgc	actcctcact	atgctcgaga	agtttttggg	atgcgttgcc	780
gacgttttca	aattgggtgcc	gctgcctatt	acaatgggta	ttcgtgcgat	tgtggctgct	840

ggatgtacgt tcacttctgc aattattgga ttgtgcactt tctgcgccag agcataa

897

<210> 266

<211> 298

<212> PRT

<213> Chlamydia

<220>

<221> VARIANT

<222> (1)...(298)

<223> Xaa = Any Amino Acid

<400> 266

Met	Ala	Ser	Ile	Cys	Gly	Arg	Leu	Gly	Ser	Gly	Thr	Gly	Asn	Ala	Leu
1				5					10					15	
Lys	Ala	Phe	Phe	Thr	Gln	Pro	Asn	Asn	Lys	Met	Ala	Arg	Val	Val	Asn
			20					25					30		
Lys	Thr	Lys	Gly	Met	Asp	Lys	Thr	Ile	Lys	Val	Ala	Lys	Ser	Ala	Ala
		35					40					45			
Glu	Leu	Thr	Ala	Asn	Ile	Leu	Glu	Gln	Ala	Gly	Gly	Ala	Gly	Ser	Ser
	50					55					60				
Ala	His	Ile	Thr	Ala	Ser	Gln	Val	Ser	Lys	Gly	Leu	Gly	Asp	Ala	Arg
65					70					75				80	
Thr	Val	Val	Ala	Leu	Gly	Asn	Ala	Phe	Asn	Gly	Ala	Leu	Pro	Gly	Thr
				85					90					95	
Val	Gln	Ser	Ala	Gln	Ser	Phe	Phe	Ser	His	Met	Lys	Ala	Ala	Ser	Gln
			100					105					110		
Lys	Thr	Gln	Glu	Gly	Asp	Glu	Gly	Leu	Thr	Ala	Asp	Leu	Cys	Val	Ser
		115				120						125			
His	Lys	Arg	Arg	Ala	Ala	Ala	Ala	Val	Cys	Ser	Ile	Ile	Gly	Gly	Ile
	130					135					140				
Thr	Tyr	Leu	Ala	Thr	Phe	Gly	Ala	Ile	Arg	Pro	Ile	Leu	Phe	Val	Asn
145					150					155				160	
Lys	Met	Leu	Ala	Lys	Pro	Phe	Leu	Ser	Ser	Gln	Thr	Lys	Ala	Asn	Met
				165					170					175	
Gly	Ser	Ser	Val	Ser	Tyr	Ile	Met	Ala	Ala	Asn	His	Ala	Ala	Ser	Val
			180					185					190		
Val	Gly	Ala	Gly	Leu	Ala	Ile	Ser	Ala	Xaa	Arg	Ala	Asp	Cys	Glu	Ala
	195					200						205			
Arg	Cys	Ala	Arg	Ile	Ala	Arg	Glu	Glu	Ser	Leu	Leu	Glu	Val	Pro	Gly
	210					215						220			
Glu	Glu	Asn	Ala	Cys	Glu	Lys	Lys	Val	Ala	Gly	Glu	Lys	Ala	Lys	Thr
225					230					235				240	
Phe	Thr	Arg	Ile	Lys	Tyr	Ala	Leu	Leu	Thr	Met	Leu	Glu	Lys	Phe	Leu
			245						250					255	
Glu	Cys	Val	Ala	Asp	Val	Phe	Lys	Leu	Val	Pro	Leu	Pro	Ile	Thr	Met
		260					265						270		
Gly	Ile	Arg	Ala	Ile	Val	Ala	Ala	Gly	Cys	Thr	Phe	Thr	Ser	Ala	Ile
	275					280						285			
Ile	Gly	Leu	Cys	Thr	Phe	Cys	Ala	Arg	Ala						
	290					295									

<210> 267

<211> 680

<212> DNA

## &lt;213&gt; Chlamydia

&lt;400&gt; 267

tctatatcca	tattgatagg	aaaaaacgtc	gcagaaagat	tttagctatg	acgtttatcc	60
gagcttttagg	atattcaaca	gatgcagata	ttattgaaga	gttcttttct	gtagaggagc	120
gttccttacg	ttcagagaag	gattttgtcg	cgttagttagg	ttaaagttaa	gctgataacg	180
tagttgatgc	ggattcttca	ttagttttacg	ggaaagctgg	agagaagcta	agtactgcta	240
tgctaaaacg	catcttagat	acgggagtc	aatctttgaa	gattgctggt	ggcgagatg	300
aaaatcacc	aattattaag	atgctcgcaa	aagatcctac	ggattcttac	gaagctgctc	360
ttaaagattt	ttatcgaga	ttacgaccag	gagagcctgc	aacttttagct	aatgctcgat	420
ccacaattat	gcgtttatc	ttcgatgcta	aacgttataa	tttaggccgc	gttggacggt	480
ataaattaaa	taaaaaatta	ggcttcccat	tagacgacga	aacattatct	caagtgactt	540
tgagaaaaga	agatgttata	ggcgcggtga	aatatttgat	tcgtttgcga	atgggcgatg	600
agaagacatc	tatcgatgat	attgaccatt	tggcaaaccg	acgagttcgc	tctgttggag	660
aactaattca	gaatcactgt					680

&lt;210&gt; 268

&lt;211&gt; 359

&lt;212&gt; DNA

## &lt;213&gt; Chlamydia

&lt;400&gt; 268

cttatgttct	ggagaatggt	gcaacaacat	attaatcgaa	ccagctcctc	ctagtaacat	60
agaaaccaag	cccttttgag	aaaaaacctg	tacttcgcat	ccttttagcca	tttgttgaat	120
agctcctaac	aaagagctaa	ttttttcctc	ttccttggtt	ttctgaggcg	ctgtggactc	180
taaatatagc	aagtgcctct	ggaacacctc	atcaacaatc	gcttgctcta	gattaggtat	240
agagactgtc	tctccatcaa	ttaaatggag	tttcaaagta	atccccctt	ccgtccctcc	300
atcacaagac	tctatgaaag	ctatctgatt	ccatcgagca	gaaatgtatg	gggaaatac	359

&lt;210&gt; 269

&lt;211&gt; 124

&lt;212&gt; DNA

## &lt;213&gt; Chlamydia

&lt;400&gt; 269

gatcgaatca	attgagggag	ctcattaaca	agaatagctg	cagtttcttt	gcgttcttct	60
ggaataacaa	gaaataggta	atcggtacca	ttgatagaac	gaacacgaca	aatcgagaaa	120
ggtt						124

&lt;210&gt; 270

&lt;211&gt; 219

&lt;212&gt; DNA

## &lt;213&gt; Chlamydia

&lt;400&gt; 270

gatcctgttg	ggcctagtaa	taatacgttg	gatttcccat	aactcacttg	tttatactgc	60
ataagagcac	ggatacgctt	atagtggta	tagacggcaa	ccgaaatcgt	ttttttcgcg	120
cgctcttgtc	caatgacata	agagtcgatg	tggcgtttga	tttcttttagg	ggttaacact	180
ctcagacttg	ttggagagct	tgtggaagat	ggtgcgatc			219

&lt;210&gt; 271

&lt;211&gt; 511

&lt;212&gt; DNA

## &lt;213&gt; Chlamydia

<220>  
 <221> misc\_feature  
 <222> (1)...(511)  
 <223> n = A,T,C or G

<400> 271  
 ggatccgaat tcggcacgag gagaaaatat aggaggttcc akcatcggaa gatctaatag 60  
 acaaagaggt tttggcatag atggctcctc cttgtacgtt caacgatgat tgggagggat 120  
 tggtatcgat agcttggttc ccagagaact gacaagtcgc gctacattga gagaatgtaa 180  
 cctgttctcc atagatagct cctcctacta cacctgaata agttggtgtt gctggagatg 240  
 atggtgcggc tgctgcggct gcttgtaggg aagcagcagc tgcagcaggt gctgaagctg 300  
 ttgttcgac tcctgtggat gaggagtttg ctttgttgtt cgagaaagag aagcctgatt 360  
 tcagattaga aatatttaca gtttttagcat gtaagcctcc accttctttc ccaacaagg 420  
 tctctgttac agataaggag actagangca tctagtttta aagatttttt acagcagata 480  
 cctccaccta tctctgtagc ggagtttctca g 511

<210> 272  
 <211> 598  
 <212> DNA  
 <213> Chlamydia

<400> 272  
 ctcttctctt cctcaatcta gttctggagc aactacagtc tccgactcag gagactctag 60  
 ctctggctca aactcggata cctcaaaaac agttccagtc acagctaaag gcggtgggct 120  
 ttatactgat aagaatcttt cgattactaa catcacagga attatcgaaa ttgcaaataa 180  
 caaagcgaca gatggtggag gtggtgctta cgtaaaagga acccttactt gtaaaaactc 240  
 tcaccgtcta caatttttga aaaactcttc cgataaaaca ggtggaggaa tctacggaga 300  
 agacaacatc accctatcta atttgacagg gaagactcta ttcgaagaga atactgccaa 360  
 aaaagagggc ggtggactct tcataaaaagg tacagataaa gctcttaca tgacaggact 420  
 ggatagtttc tgtttaatta ataacacatc agaaaaacat ggtggtggga gcctttgtta 480  
 ccaaagaaat ctctcagact tacacctctt gatgtggaaa caattccagg aatcacgcct 540  
 gtacatggtg aaacagtcac tactggcaat aaatctacag gaggtaatgg tggagggc 598

<210> 273  
 <211> 126  
 <212> DNA  
 <213> Chlamydia

<400> 273  
 ggatccgaat tcggcacgag atgagcctta tagtttaaca aaagcttctc acattccttc 60  
 gatagctttt tattagccgt ttttagcatc ctaatgagat ctctcgttc gtaacaaata 120  
 cgagag 126

<210> 274  
 <211> 264  
 <212> DNA  
 <213> Chlamydia

<400> 274  
 ggatccgaat tcggcacgag ctctttttaa tcttaattac aaaaagacaa attaatcaaa 60  
 tttttcaaaa aagaatttaa acattaattg ttgtaaaaaa acaatattta ttctaaaata 120  
 ataaccatag ttacggggga atctctttca tgggtttatt tagagctcat caacctaggc 180  
 atacgcctaa aacatttcct ttgaaagttc accattcgtt ctccgataag catcctcaaa 240  
 ttgctaaagc tatgtggatt acgg 264

<210> 275  
 <211> 359  
 <212> DNA  
 <213> Chlamydia

<400> 275  
 ggatccgaat tcggcacgag ataaaaacctg aaccacaaca aagatctaaa acttcttgat 60  
 tttcagctgc aaattctttt agataaatat caaccatttc ttcagtttca tatcttggaa 120  
 ttaaaacttg ttctcttaaa ttaattctag tatttaagta ttcaacatag cccattatta 180  
 attgaattgg ataattttgc cttaataatt cacattcttt ttcagtaatt ttaggttcta 240  
 aaccgtaccg ctttttttct aaaaatgaatg tttcttcatt attcatttta taagccactt 300  
 tcctttatct tttgattttg ttcttctggt agtaatgctt caataatagt taataatctt 359

<210> 276  
 <211> 357  
 <212> DNA  
 <213> Chlamydia

<400> 276  
 aaaacaattg atataatctt ttttttcata acttccagac tcctttctag aaaagtcttt 60  
 atgggtagta gtgactctaa cgttttttat tattaagacg atccccggag atccttttaa 120  
 tgatgaaaac ggaaacatcc ttccgccaga aacttttagca ctattaaaga atcgttacgg 180  
 gttagataag cctttattca cccagtatct tatctatttg aaatgtctgc taacactaga 240  
 tttcggggaa tctcttatct acaaagatcg aaatctcagc attattgctg ccgctcttcc 300  
 atcttccgct attcttggac ttgaaagctt gtgtttactc gtgccgaatt cggatcc 357

<210> 277  
 <211> 505  
 <212> DNA  
 <213> Chlamydia

<400> 277  
 ggatccgaat tcggcacgag ctctgtgcga ttgcttgctt cagtcacccc atcggtatag 60  
 agcactaaaa gagactcttc ttcaagaacg agagtgttag cagggtgagg aggaacttca 120  
 ggtaaaaatc ctaaggccat accaggatgc gacaggaaag agatatctcc attaggagct 180  
 cggagacacg ctgggttgtg gccacaagaa tagtattcta gttctcgtgt tgcgtaatga 240  
 taacaataaa tgcatagtgt tacaacatc ccagattcag ctgtctgttg atagaagaga 300  
 gcagctgttt gttgaacggc ttcttgaata gaggagagct cactcaaaaa ggtatgtaac 360  
 atgtttttca ggaataagga gtaggcgcac gcattgactc ctttcccgga agcatcagca 420  
 acgattagaa agagttagc ttggggacct tcgcctataa caaagatatc aaagaaatct 480  
 cctcctaccg taactgcagg aatat 505

<210> 278  
 <211> 407  
 <212> DNA  
 <213> Chlamydia

<400> 278  
 ggatccgaat tcggcacgag aactactgag caaattgggt atccaacttc ctctttacga 60  
 aagaaaaaca gaaggcattc tccataccaa gatttgttgc atcgacaata aaactccaat 120  
 ctttggctct gctaactgga gcggtgctgg tatgattaaa aactttgaag acctattcat 180  
 ccttcgccca attacagaga cacagcttca ggcctttatg gacgtctggt ctcttctaga 240  
 aacaaatagc tcctatctgt cccagagag gcgtgcttacg gccctactc cttcaagtag 300  
 acctactcaa caagatacag attctgatga cgaacaaccg agtaccagcc agcaagctat 360  
 ccgtatgaga aaataggatt agggaaacaa aacgacagca aaccaca 407

<210> 279  
 <211> 351  
 <212> DNA  
 <213> Chlamydia

<400> 279  
 ctctgtgccgc ttacaggagg cttgtatcct ttaaaataga gtttttctta tgaccccatg 60  
 tggcgatagg ccgggtctag cgccgatagt agaaatatcg gttgggtttt gtccttgagg 120  
 ggatcgtata ctttttcaaa gtatgggtccc cgtatcgatt atctggaggc tcttatgtct 180  
 ttttttcata ctagaaaata taagcttata ctcagaggac tcttgtgttt agcaggctgt 240  
 ttcttaatga acagctgttc ctctagtcga ggaaatcaac ccgctgatga gagcatctat 300  
 gtcttgtcta tgaatcgcat gatttgtgat tctcgtgccg aattcggatc c 351

<210> 280  
 <211> 522  
 <212> DNA  
 <213> Chlamydia

<400> 280  
 ggatccgaat tcggcacgag cagaggaaaa aggcgatact cctcttgaag atcgtttcac 60  
 agaagatctt tccgaagtct ctggagaaga ttttcgagga ttgaaaaatt cgttcgatga 120  
 tgattcttct tctgacgaaa ttctcgatgc gctcacaagt aaattttctg atcccacaat 180  
 aaaggatcta gctcttgatt atctaattca aatagctccc tctgatggga aacttaagtc 240  
 cgctctcatt caggcaaagc atcaactgat gagccagaat cctcaggcga ttgttgaggg 300  
 acgcaatggt ctgtagctt cagaaacctt tgcttccaga gcaaatacat ctccctcatc 360  
 gcttcgctcc ttatatttcc aagtaacctc atccccctct aattgcgcta atttacatca 420  
 aatgcttgct tcttactcgc catcagagaa aaccgctggt atggagtttc tagtgaatgg 480  
 catggtagca gatataaaat cggaggggccc ttccattcct cc 522

<210> 281  
 <211> 577  
 <212> DNA  
 <213> Chlamydia

<400> 281  
 ggatccgaat tcggcacgag atgcttctat tacaattggg ttggatgcgg aaaaagctta 60  
 ccagcttatt ctagaaaagt tgggagatca aattcttggg ggaattgctg atactattgt 120  
 tgatagtaca gtccaagata ttttagacaa aatcacaaca gacccttctc taggtttggt 180  
 gaaagctttt aacaactttc caatcactaa taaaattcaa tgcaacgggt tattcactcc 240  
 caggaacatt gaaactttat taggaggaac tgaaatagga aaattcacag tcacacccaa 300  
 aagctctggg agcatgttct tagtctcagc agatattatt gcatcaagaa tgggaaggcgg 360  
 cgttggttcta gctttggtac gagaagggtga ttctaagccc tacgcgatta gttatggata 420  
 ctcatcaggc gttcctaatt tatgtagtct aagaaccaga attattaata caggattgac 480  
 tccgacaacg tattcattac gtgtaggcgg tttagaaagc ggtgtggtat gggttaatgc 540  
 ccttttcta at ggcaatgata ttttaggaat aacaaat 577

<210> 282  
 <211> 607  
 <212> DNA  
 <213> Chlamydia

<400> 282  
 actmatcttc cccgggctcg agtgccggcg caagcttgct gacggagctc gatacaaaaa 60  
 tgtgtgcgtg tgaaccgctt cttcaaaagc ttgtcttaaa agatattgtc tcgcttcagg 120

attagttaca	tgtttaaaaa	ttgctagaac	aatattatc	ccaaccaagc	tctctgcggt	180
gctgaaaaaa	cctaaattca	aaagaatgac	tcgcccgtca	tcttcagaaa	gacgatccga	240
cttccataat	tcgatgtctt	tccccatggg	gatctctgta	gggagccagt	tatttgcgca	300
gccattcaaa	taatgttccc	aagcccattt	gtacttaata	ggaacaagtt	ggttgacatc	360
gacctgggtg	cagttcacta	gacgcttgct	atttagatta	acgcgtttct	gttttccatc	420
taaaatatct	gcttgcataa	gaaccgttaa	ttttattggt	aatttatatg	attaattact	480
gacatgcttc	acacccttct	tccaaagaac	agacagggtgc	tttcttcgct	ctttcaacaa	540
taattcctgc	cgaagcagac	ttattcttca	tccaacgagg	ctgaattcct	ctcttattaa	600
tatctac						607

&lt;210&gt; 283

&lt;211&gt; 1077

&lt;212&gt; DNA

&lt;213&gt; Chlamydia

&lt;400&gt; 283

ggatccgaat	tcggcacgag	aagttaacga	tgacgatttg	ttcctttggt	agagaaggag	60
caatcgaaac	taaatgtgcg	agagcatgtg	aagactccaa	tgcaggaata	atcccctcat	120
ttctagtaag	caggaaaaaa	gctcgtaacg	cctcttcac	ggtggcta	gtataaaagg	180
ctcgtcctga	ctcatgcatt	tcggcatgat	ctggcccaac	tgaaggataa	tctaataccag	240
cggaaatgga	gtgagtttgt	aatacttgct	catcgctcat	ttgaagaaga	tacgaataaa	300
atccgtggaa	tactccaggt	cgccttggtg	caaaacgtgc	tgcattgttt	cctgaagaaa	360
tgcccagtc	tcccccttcc	actccaatta	attggacttt	tggattcggg	ataaaatgat	420
ggaaaaatcc	aatagcgttg	gagccacctc	cgatacatgc	aatcagaata	tcaggatctc	480
ttcctgcaac	tgcatggatt	tgctctttca	cttcagcgct	tataacagac	tgaaaaaatc	540
gaacgatatc	gggataaggt	aaaggtccta	aggccgatcc	taagcaatag	tgagtaaagt	600
agtgtgttgt	tgcccaatct	tgtagagctt	gattaactgc	atctttgagt	ccacaagatc	660
cttttggtac	agaaacgact	tcagcaccta	aaaagcgcat	tttctctaca	tttggtttct	720
gtcgttccac	atcttttgct	cccatgtata	ctacacaatc	taactctaga	taagcacacg	780
ctgttgctgt	tgctactcca	tgttgctccg	cacctgttcc	agctacaaca	cgtgttttcc	840
caagatatct	agcaagcaaa	cactgaccaa	gagcattatt	cagtttatgt	gctcctgtat	900
gcaaaaagatc	ttcgcgttta	agaaataact	tagggccatc	aatagctcga	gcaaaattct	960
taacttcagt	cagaggagtt	tgtctccccg	catagttttt	caaaatacaa	tctagttcag	1020
ataaaaaaact	ttgctgagtt	ttgagaatct	cccattccgc	ttttagattc	tgtatag	1077

&lt;210&gt; 284

&lt;211&gt; 407

&lt;212&gt; DNA

&lt;213&gt; Chlamydia

&lt;400&gt; 284

ggatccgaat	tcggcacgag	aactactgag	caaattgggt	atccaacttc	ctcttttacga	60
aagaaaaaca	gaaggcattc	tccataccaa	gatttggtgc	atcgacaata	aaactccaat	120
ctttggetct	gctaactgga	gcggtgctgg	tatgattaaa	aactttgaag	acctattcat	180
ccttcgccca	attacagaga	cacagcttca	ggcctttatg	gacgtctggt	ctcttctaga	240
aacaaaatgc	tcctatctgt	ccccagagag	cgtgcttacg	gcccctactc	cttcaagtag	300
acctactcaa	caagatacag	attctgatga	cgaacaaccg	agtaccagcc	agcaagctat	360
ccgtatgaga	aaataggatt	agggaaacaa	aacgacagca	aaccaca		407

&lt;210&gt; 285

&lt;211&gt; 802

&lt;212&gt; DNA

&lt;213&gt; Chlamydia

&lt;400&gt; 285



```

ggatccgaat tgggcacgag ttagcttaat gtctttgtca tctctaccta catttgacgc      60
taattctaca ggcacaattg gaatcggttaa ttacgtcgcg tgcctagaag agtctgctct      120
tgggaaaaaaa gaatctgctg aattcgaaaa gatgaaaaac caattctcta acagcatggg      180
gaagatggag gaagaactgt cttctatcta ttccaagctc caagacgacg attacatgga      240
aggtctatcc gagaccgcag ctgccgaatt aagaaaaaaa ttcgaagatc tatctgcaga      300
atacaacaca gctcaagggc agtattacca aataattaaac caaagtaatc tcaagcgcat      360
gcaaaaagatt atggaagaag tgaaaaaagc ttctgaaact gtgcgtattc aagaaggctt      420
gtcagtcctt cttaacgaag atattgtctt atctatcgat agttcggcag ataaaaccga      480
tgctgttatt aaagtctctg atgattcttt tcaaaataat taacatgcga agctagccga      540
ggagtgccgt atgtctcaat ccacttattc tcttgaacaa ttagctgatt ttttgaaagt      600
cgagtttcaa ggaaatggag ctactcttct ttccggagtt gaagagatcg aggaagcaaa      660
aacggcacac atcacattct tagataatga aaaatatgct aaacatttaa aatcatcgga      720
agctggcgct atcatcatat ctgcaacaca gtttcaaaaa tatcgagact tgaataaaaa      780
ctttcttata acttctgagt ct                                     802

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<210> 286

<211> 588

<212> DNA

<213> Chlamydia

<400> 286

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ggatccgaat tgggcacgag gcaatattta ctcccaacat tacggttcca aataagcgat      60
aaggctcttc aataaggaag ttaatgtaag aggctttttt attgcttttc gtaaggtagt      120
attgcaaccg cacgcgattg aatgatacgc aagccatttc catcatggaa aagaaccctt      180
ggacaaaaat acaaaggagg ttacttcta accagaaaaa gggagagtta gtttccatgg      240
gttttcctta tataacccg ttccacacaa ttaggagccg cgtctagtat ttggaataca      300
aat'tgtcccc aagcgaattt tgttcctggt tcagggattt ctccctaattg ttctgacagc      360
catccgccta tggtaacgca attagctgta gtaggaagat caactccaaa cagggtcatag      420
aaatcagaaa gctcataggt gcctgcagca ataacaacat tcttgtctga gtgagcgaat      480
tgtttaaaag atgggcgatt atgagctacc tcatcagaga cratttttaa tagatcattt      540
tgggtaatca atccttctat agaccatata tcatcaatga taatctcg                                     588

```

<210> 287

<211> 489

<212> DNA

<213> Chlamydia

<220>

<221> misc\_feature

<222> (1) ... (489)

<223> n = A,T,C or G

<400> 287

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agtgcctatt gttttgcagg ctttgtctga tgatagcgat accgtacgtg agattgctgt      60
acaagtagct gttatgtatg gttctagttg cttactgcgc gccgtgggcg atttagcgaa      120
aaatgattct tctattcaag tacgcatcac tgcttatcgt gctgcagccg tggtggagat      180
acaagatctt gtgcctcatt tacgagttgt agtccaaaat acacaattag atggaacgga      240
aagaagagaa gcttgagatg ctttatgtgt tcttactcgg cctcatagtg gtgtattaac      300
tggcatagat caagctttta tgacctgtga gatgttaaag gaatatcctg aaaagtgtac      360
ggaagaacag attcgtacat tattggctgc agatcatcca gaagtgcagg tagctacttt      420
acagatcatt ctgagaggag gtagagtatt ccggtcatct tctataatgg aatcgggttct      480
cgtgccgnt

```

<210> 288

<211> 191

&lt;212&gt; DNA

&lt;213&gt; Chlamydia

&lt;400&gt; 288

ggatccgaat	tcaggatatg	ctgttgggtt	atcaataaaa	agggttttgc	cattttttta	60
gacgactttg	tagataacgc	taggagctgt	agcaataata	tcgagatcaa	attctctaga	120
gattctctca	aagatgattt	ctaagtgcag	cagtcctaaa	aatccacagc	ggaacccaaa	180
tccgagagag	t					191

&lt;210&gt; 289

&lt;211&gt; 515

&lt;212&gt; DNA

&lt;213&gt; Chlamydia

&lt;400&gt; 289

ggatccgaat	tcggcacgag	gagcgacgtg	aaatagtggg	atcttcccgt	attcttatta	60
cttctgcgtt	gccttacgca	aatggtcctt	tgcatttttg	acatattacc	gggtgcttatt	120
tgctgcgaga	tgtttatgcg	cgttttcaga	gactacaagg	caaagagggt	ttgtatatatt	180
gtggttctga	tgaatacgga	atcgcaatta	cccttaatgc	agagttggca	ggcatgggggt	240
atcaagaata	tgtcgacatg	tatcataagc	ttcataaaga	taccttcaag	aaattggggaa	300
tttctgtaga	tttcttttcc	agaactacga	acgcttatca	tcctgctatt	gtgcaagatt	360
tctatcgaaa	cttgcaggaa	cgcggactgg	tagagaatca	ggtgaccgaa	cagctgtatt	420
ctgaggaaga	agggaagttt	ttagcggacc	gttatgttgt	aggtacttgt	cccaagtgtg	480
ggtttgatcg	agctcgagga	gatgagtgtc	agcag			515

&lt;210&gt; 290

&lt;211&gt; 522

&lt;212&gt; DNA

&lt;213&gt; Chlamydia

&lt;400&gt; 290

ggatccgaat	tcggcacgag	ggaggaatgg	aagggccctc	cgattktama	tctgctacca	60
tgccattcac	tagaaaactcc	ataacagcgg	ttttctctga	tggcgagtaa	gaagcaagca	120
tttgatgtaa	attagcgcaa	ttagaggggg	atgaggttac	ttggaaatat	aaggagcgaa	180
gcatgaagg	agatgtattt	gctctggaag	caaaggtttc	tgaagctaac	agaacattgc	240
gtcctccaac	aatcgccctga	ggattctggc	tcatcagttg	atgctttgcc	tgaatgagag	300
cggacttaag	tttcccatca	gagggagcta	tttgaattag	ataatcaaga	gctagatcct	360
ttattgtggg	atcagaaaat	ttacttgtga	gcgcacgcag	aatttcgtca	gaagaagaat	420
catcatcgaa	cgaatttttc	aatcctcgaa	aatcttctcc	agagacttcg	gaaagatctt	480
ctgtgaaacg	atcttcaaga	ggagtatcgc	ctttttccyc	tg		522

&lt;210&gt; 291

&lt;211&gt; 1002

&lt;212&gt; DNA

&lt;213&gt; Chlamydia

&lt;400&gt; 291

atggcgacta	acgcaattag	atcggcagga	agtgcagcaa	gtaagatgct	gctgccagtt	60
gccaaagaac	cagcggctgt	cagctccttt	gctcagaaag	ggatttattg	tattcaacaa	120
ttttttacaa	accctgggaa	taagtttagca	aagttttagat	gggcaacaaa	aagtttagat	180
aaatgcttta	agctaagtaa	ggcggtttct	gactgtgtcg	taggatcgct	ggaagaggcg	240
ggatgcacag	gggacgcatt	gacctccgcg	agaaaacgccc	agggtatggt	aaaaacaact	300
cgagaagtgg	ttgccttagc	taatgtgctc	aatggagctg	ttccatctat	cgtttaactcg	360
actcagaggt	gttaccaata	cacacgtcaa	gccttcgagt	taggaagcaa	gacaaaagaa	420
agaaaaacgc	ctggggagta	tagtaaaatg	ctattaactc	gaggtgatta	cctattggca	480

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gcttccaggg aagcttgtac ggcagtcggt gcaacgactt actcagcgac attcgggtgtt 540
ttacgtccgt taatgttaat caataaactc acagcaaaac cattcttaga caaagcgact 600
gtaggcaatt ttggcacggc tgttgctgga attatgacca ttaatcatat ggcaggagtt 660
gctgggtgctg ttggcgggaat cgcattagaa caaaagctgt tcaaacgtgc gaaggaatcc 720
ctatacaatg agagatgtgc cttagaaaac caacaatctc agttgagtgg ggacgtgatt 780
ctaagcgcg g aaagggcatt acgtaaagaa cacgttgcta ctctaaaaaag aaatgtttta 840
actcttcttg aaaaagcttt agagttggta gtggatggag tcaaactcat tcctttaccg 900
attacagtgg cttgctccgc tgcaatttct ggagccttga cggcagcatc cgcaggaatt 960
ggcttatata gcatatggca gaaaacaaag tctggcaaat aa 1002

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&lt;210&gt; 292

&lt;211&gt; 333

&lt;212&gt; PRT

&lt;213&gt; Chlamydia

&lt;400&gt; 292

```

Met Ala Thr Asn Ala Ile Arg Ser Ala Gly Ser Ala Ala Ser Lys Met.
1 5 10 15
Leu Leu Pro Val Ala Lys Glu Pro Ala Ala Val Ser Ser Phe Ala Gln
20 25 30
Lys Gly Ile Tyr Cys Ile Gln Gln Phe Phe Thr Asn Pro Gly Asn Lys
35 40 45
Leu Ala Lys Phe Val Gly Ala Thr Lys Ser Leu Asp Lys Cys Phe Lys
50 55 60
Leu Ser Lys Ala Val Ser Asp Cys Val Val Gly Ser Leu Glu Glu Ala
65 70 75 80
Gly Cys Thr Gly Asp Ala Leu Thr Ser Ala Arg Asn Ala Gln Gly Met
85 90 95
Leu Lys Thr Thr Arg Glu Val Val Ala Leu Ala Asn Val Leu Asn Gly
100 105 110
Ala Val Pro Ser Ile Val Asn Ser Thr Gln Arg Cys Tyr Gln Tyr Thr
115 120 125
Arg Gln Ala Phe Glu Leu Gly Ser Lys Thr Lys Glu Arg Lys Thr Pro
130 135 140
Gly Glu Tyr Ser Lys Met Leu Leu Thr Arg Gly Asp Tyr Leu Leu Ala
145 150 155 160
Ala Ser Arg Glu Ala Cys Thr Ala Val Gly Ala Thr Thr Tyr Ser Ala
165 170 175
Thr Phe Gly Val Leu Arg Pro Leu Met Leu Ile Asn Lys Leu Thr Ala
180 185 190
Lys Pro Phe Leu Asp Lys Ala Thr Val Gly Asn Phe Gly Thr Ala Val
195 200 205
Ala Gly Ile Met Thr Ile Asn His Met Ala Gly Val Ala Gly Ala Val
210 215 220
Gly Gly Ile Ala Leu Glu Gln Lys Leu Phe Lys Arg Ala Lys Glu Ser
225 230 235 240
Leu Tyr Asn Glu Arg Cys Ala Leu Glu Asn Gln Gln Ser Gln Leu Ser
245 250 255
Gly Asp Val Ile Leu Ser Ala Glu Arg Ala Leu Arg Lys Glu His Val
260 265 270
Ala Thr Leu Lys Arg Asn Val Leu Thr Leu Leu Glu Lys Ala Leu Glu
275 280 285
Leu Val Val Asp Gly Val Lys Leu Ile Pro Leu Pro Ile Thr Val Ala
290 295 300
Cys Ser Ala Ala Ile Ser Gly Ala Leu Thr Ala Ala Ser Ala Gly Ile

```

7

<400> 293  
tgcaatc

<400> 294  
Thr Met Gly Ser Leu Val Gly Arg Gln Ala Pro Asp Phe Ser Gly Lys  
5 10 15

Ala Val Val Cys Gly Glu Glu Lys Glu Ile Ser Leu Ala Asp Phe Arg  
20 25 30

Gly Lys Tyr Val Val Leu Phe Phe Tyr Pro Lys Asp Phe Thr Tyr Val  
35 40 45

Cys Pro Thr Glu Leu His Ala Phe Gln Asp Arg Leu Val Asp Phe Glu  
50 55 60

Glu His Gly Ala Val Val Leu Gly Cys Ser Val Asp Asp Ile Glu Thr  
65 70 75 80

His Ser Arg Trp Leu Thr Val Ala Arg Asp Ala Gly Gly Ile Glu Gly  
85 90 95

Thr Glu Tyr Pro Leu Leu Ala Asp Pro Ser Phe. Lys Ile Ser Glu Ala  
100 105 110

Phe Gly Val Leu Asn Pro Glu Gly Ser Leu Ala Leu Arg Ala Thr Phe  
115 120 125

Leu Ile Asp Lys His Gly Val Ile Arg His Ala Val Ile Asn Asp Leu  
130 135 140

Pro Leu Gly Arg Ser Ile Asp Glu Glu Leu Arg Ile Leu Asp Ser Leu  
145 150 155 160

Ile Phe Phe Glu Asn His Gly Met Val Cys Pro Ala Asn Trp Arg Ser  
165 170 175

Gly Glu Arg Gly Met Val Pro Ser Glu Glu Gly Leu Lys Glu Tyr Phe  
180 185 190

Gln Thr Met Asp

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<210> 295
<211> 181
<212> PRT
<213> Chlamydia
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Lys Gly Gly Lys Met Ser Thr Thr Ile Ser Gly Asp Ala Ser Ser Leu  
5 10 15

Pro Leu Pro Thr Ala Ser Cys Val Glu Thr Lys Ser Thr Ser Ser Ser  
20 25 30

Thr Lys Gly Asn Thr Cys Ser Lys Ile Leu Asp Ile Ala Leu Ala Ile  
 35 40 45

Val Gly Ala Leu Val Val Val Ala Gly Val Leu Ala Leu Val Leu Cys  
50 55 60

Ala Ser Asn Val Ile Phe Thr Val Ile Gly Ile Pro Ala Leu Ile Ile  
65 70 75 80

Gly Ser Ala Cys Val Gly Ala Gly Ile Ser Arg Leu Met Tyr Arg Ser  
85 90 95

Ser Tyr Ala Ser Leu Glu Ala Lys Asn Val Leu Ala Glu Gln Arg Leu  
100 105 110

Arg Asn Leu Ser Glu Glu Lys Asp Ala Leu Ala Ser Val Ser Phe Ile  
115 120 125

Asn Lys Met Phe Leu Arg Gly Leu Thr Asp Asp Leu Gln Ala Leu Glu  
130 135 140

Ala Lys Val Met Glu Phe Glu Ile Asp Cys Leu Asp Arg Leu Glu Lys  
145 150 155 160

Asn Glu Gln Ala Leu Leu Ser Asp Val Arg Leu Val Leu Ser Ser Tyr  
165 170 175

Thr Arg Trp Leu Asp  
180

<213> Chlamydia

Ile Tyr Glu Val Met Asn Met Asp Leu Glu Thr Arg Arg Ser Phe Ala  
5 10 15

Val Gln Gln Gly His Tyr Gln Asp Pro Arg Ala Ser Asp Tyr Asp Leu  
20 25 30

Pro Arg Ala Ser Asp Tyr Asp Leu Pro Arg Ser Pro Tyr Pro Thr Pro  
35 40 45

Pro Leu Pro Ser Arg Tyr Gln Leu Gln Asn Met Asp Val Glu Ala Gly  
50 55 60

Phe Arg Glu Ala Val Tyr Ala Ser Phe Val Ala Gly Met Tyr Asn Tyr  
65 70 75 80

Val Val Thr Gln Pro Gln Glu Arg Ile Pro Asn Ser Gln Gln Val Glu  
85 90 95

Gly Ile Leu Arg Asp Met Leu Thr Asn Gly Ser Gln Thr Phe Ser Asn  
100 105 110

Leu Met Gln Arg Trp Asp Arg Glu Val Asp Arg Glu  
115 120

<210> 297

<211> 488

<212> PRT

<213> Chlamydia

<400> 297

Lys Gly Ser Leu Pro Ile Leu Gly Pro Phe Leu Asn Gly Lys Met Gly  
5 10 15

Phe Trp Arg Thr Ser Ile Met Lys Met Asn Arg Ile Trp Leu Leu Leu  
20 25 30

Leu Thr Phe Ser Ser Ala Ile His Ser Pro Val Arg Gly Glu Ser Leu  
35 40 45

Val Cys Lys Asn Ala Leu Gln Asp Leu Ser Phe Leu Glu His Leu Leu  
50 55 60

Gln Val Lys Tyr Ala Pro Lys Thr Trp Lys Glu Gln Tyr Leu Gly Trp  
65 70 75 80

Asp Leu Val Gln Ser Ser Val Ser Ala Gln Gln Lys Leu Arg Thr Gln  
85 90 95

Glu Asn Pro Ser Thr Ser Phe Cys Gln Gln Val Leu Ala Asp Phe Ile  
100 105 110

Gly Gly Leu Asn Asp Phe His Ala Gly Val Thr Phe Phe Ala Ile Glu  
115 120 125

Ser Ala Tyr Leu Pro Tyr Thr Val Gln Lys Ser Ser Asp Gly Arg Phe  
130 135 140

Tyr Phe Val Asp Ile Met Thr Phe Ser Ser Glu Ile Arg Val Gly Asp  
 145 150 155 160  
 Glu Leu Leu Glu Val Asp Gly Ala Pro Val Gln Asp Val Leu Ala Thr  
 165 170 175  
 Leu Tyr Gly Ser Asn His Lys Gly Thr Ala Ala Glu Glu Ser Ala Ala  
 180 185 190  
 Leu Arg Thr Leu Phe Ser Arg Met Ala Ser Leu Gly His Lys Val Pro  
 195 200 205  
 Ser Gly Arg Thr Thr Leu Lys Ile Arg Arg Pro Phe Gly Thr Thr Arg  
 210 215 220  
 Glu Val Arg Val Lys Trp Arg Tyr Val Pro Glu Gly Val Gly Asp Leu  
 225 230 235 240  
 Ala Thr Ile Ala Pro Ser Ile Arg Ala Pro Gln Leu Gln Lys Ser Met  
 245 250 255  
 Arg Ser Phe Phe Pro Lys Lys Asp Asp Ala Phe His Arg Ser Ser Ser  
 260 265 270  
 Leu Phe Tyr Ser Pro Met Val Pro His Phe Trp Ala Glu Leu Arg Asn  
 275 280 285  
 His Tyr Ala Thr Ser Gly Leu Lys Ser Gly Tyr Asn Ile Gly Ser Thr  
 290 295 300  
 Asp Gly Phe Leu Pro Val Ile Gly Pro Val Ile Trp Glu Ser Glu Gly  
 305 310 315 320  
 Leu Phe Arg Ala Tyr Ile Ser Ser Val Thr Asp Gly Asp Gly Lys Ser  
 325 330 335  
 His Lys Val Gly Phe Leu Arg Ile Pro Thr Tyr Ser Trp Gln Asp Met  
 340 345 350  
 Glu Asp Phe Asp Pro Ser Gly Pro Pro Pro Trp Glu Glu Phe Ala Lys  
 355 360 365  
 Ile Ile Gln Val Phe Ser Ser Asn Thr Glu Ala Leu Ile Ile Asp Gln  
 370 375 380  
 Thr Asn Asn Pro Gly Gly Ser Val Leu Tyr Leu Tyr Ala Leu Leu Ser  
 385 390 395 400  
 Met Leu Thr Asp Arg Pro Leu Glu Leu Pro Lys His Arg Met Ile Leu  
 405 410 415  
 Thr Gln Asp Glu Val Val Asp Ala Leu Asp Trp Leu Thr Leu Leu Glu  
 420 425 430  
 Asn Val Asp Thr Asn Val Glu Ser Arg Leu Ala Leu Gly Asp Asn Met

435

440

445

Glu Gly Tyr Thr Val Asp Leu Gln Val Ala Glu Tyr Leu Lys Ser Phe  
 450 455 460

Gly Arg Gln Val Leu Asn Cys Trp Ser Lys Gly Asp Ile Glu Leu Ser  
 465 470 475 480

Thr Pro Ile Pro Leu Phe Gly Phe  
 485

&lt;210&gt; 298

&lt;211&gt; 140

&lt;212&gt; PRT

&lt;213&gt; Chlamydia

&lt;400&gt; 298

Arg Ile Asp Ile Ser Ser Val Thr Phe Phe Ile Gly Ile Leu Leu Ala  
 5 10 15

Val Asn Ala Leu Thr Tyr Ser His Val Leu Arg Asp Leu Ser Val Ser  
 20 25 30

Met Asp Ala Leu Phe Ser Arg Asn Thr Leu Ala Val Leu Leu Gly Leu  
 35 40 45

Val Ser Ser Val Leu Asp Asn Val Pro Leu Val Ala Ala Thr Ile Gly  
 50 55 60

Met Tyr Asp Leu Pro Met Asn Asp Pro Leu Trp Lys Leu Ile Ala Tyr  
 65 70 75 80

Thr Ala Gly Thr Gly Gly Ser Ile Leu Ile Ile Gly Ser Ala Ala Gly  
 85 90 95

Val Ala Tyr Met Gly Met Glu Lys Val Ser Phe Gly Trp Tyr Val Lys  
 100 105 110

His Ala Ser Trp Ile Ala Leu Ala Ser Tyr Phe Gly Gly Leu Ala Val  
 115 120 125

Tyr Phe Leu Met Glu Asn Cys Val Asn Leu Phe Val  
 130 135 140

&lt;210&gt; 299

&lt;211&gt; 361

&lt;212&gt; PRT

&lt;213&gt; Chlamydia

&lt;400&gt; 299

His Gln Glu Ile Ala Asp Ser Pro Leu Val Lys Lys Ala Glu Glu Gln  
 5 10 15



Ile Asn Gln Ala Gln Gln Asp Ile Gln Thr Ile Thr Pro Ser Gly Leu  
 20 25 30  
 Asp Ile Pro Ile Val Gly Pro Ser Gly Ser Ala Ala Ser Ala Gly Ser  
 35 40 45  
 Ala Ala Gly Ala Leu Lys Ser Ser Asn Asn Ser Gly Arg Ile Ser Leu  
 50 55 60  
 Leu Leu Asp Asp Val Asp Asn Glu Met Ala Ala Ile Ala Met Gln Gly  
 65 70 75 80  
 Phe Arg Ser Met Ile Glu Gln Phe Asn Val Asn Asn Pro Ala Thr Ala  
 85 90 95  
 Lys Glu Leu Gln Ala Met Glu Ala Gln Leu Thr Ala Met Ser Asp Gln  
 100 105 110  
 Leu Val Gly Ala Asp Gly Glu Leu Pro Ala Glu Ile Gln Ala Ile Lys  
 115 120 125  
 Asp Ala Leu Ala Gln Ala Leu Lys Gln Pro Ser Ala Asp Gly Leu Ala  
 130 135 140  
 Thr Ala Met Gly Gln Val Ala Phe Ala Ala Ala Lys Val Gly Gly Gly  
 145 150 155 160  
 Ser Ala Gly Thr Ala Gly Thr Val Gln Met Asn Val Lys Gln Leu Tyr  
 165 170 175  
 Lys Thr Ala Phe Ser Ser Thr Ser Ser Ser Tyr Ala Ala Ala Leu  
 180 185 190  
 Ser Asp Gly Tyr Ser Ala Tyr Lys Thr Leu Asn Ser Leu Tyr Ser Glu  
 195 200 205  
 Ser Arg Ser Gly Val Gln Ser Ala Ile Ser Gln Thr Ala Asn Pro Ala  
 210 215 220  
 Leu Ser Arg Ser Val Ser Arg Ser Gly Ile Glu Ser Gln Gly Arg Ser  
 225 230 235 240  
 Ala Asp Ala Ser Gln Arg Ala Ala Glu Thr Ile Val Arg Asp Ser Gln  
 245 250 255  
 Thr Leu Gly Asp Val Tyr Ser Arg Leu Gln Val Leu Asp Ser Leu Met  
 260 265 270  
 Ser Thr Ile Val Ser Asn Pro Gln Ala Asn Gln Glu Glu Ile Met Gln  
 275 280 285  
 Lys Leu Thr Ala Ser Ile Ser Lys Ala Pro Gln Phe Gly Tyr Pro Ala  
 290 295 300  
 Val Gln Asn Ser Val Asp Ser Leu Gln Lys Phe Ala Ala Gln Leu Glu

305                      310                      315                      320  
 Arg Glu Phe Val Asp Gly Glu Arg Ser Leu Ala Glu Ser Gln Glu Asn  
                                  325                                   330                                   335  
 Ala Phe Arg Lys Gln Pro Ala Phe Ile Gln Gln Val Leu Val Asn Ile  
                                  340                                   345                                   350  
 Ala Ser Leu Phe Ser Gly Tyr Leu Ser  
                                  355                                   360

<210> 300  
 <211> 207  
 <212> PRT  
 <213> Chlamydia

<400> 300  
 Ser Ser Lys Ile Val Ser Leu Cys Glu Gly Ala Val Ala Asp Ala Arg  
                                  5                                   10                                   15  
 Met Cys Lys Ala Glu Leu Ile Lys Lys Glu Ala Asp Ala Tyr Leu Phe  
                                  20                                   25                                   30  
 Cys Glu Lys Ser Gly Ile Tyr Leu Thr Lys Lys Glu Gly Ile Leu Ile  
                                  35                                   40                                   45  
 Pro Ser Ala Gly Ile Asp Glu Ser Asn Thr Asp Gln Pro Phe Val Leu  
                                  50                                   55                                   60  
 Tyr Pro Lys Asp Ile Leu Gly Ser Cys Asn Arg Ile Gly Glu Trp Leu  
                                  65                                   70                                   75                                   80  
 Arg Asn Tyr Phe Arg Val Lys Glu Leu Gly Val Ile Ile Thr Asp Ser  
                                  85                                   90                                   95  
 His Thr Thr Pro Met Arg Arg Gly Val Leu Gly Ile Gly Leu Cys Trp  
                                  100                                   105                                   110  
 Tyr Gly Phe Ser Pro Leu His Asn Tyr Ile Gly Ser Leu Asp Cys Phe  
                                  115                                   120                                   125  
 Gly Arg Pro Leu Gln Met Thr Gln Ser Asn Leu Val Asp Ala Leu Ala  
                                  130                                   135                                   140  
 Val Ala Ala Val Val Cys Met Gly Glu Gly Asn Glu Gln Thr Pro Leu  
                                  145                                   150                                   155                                   160  
 Ala Val Ile Glu Gln Ala Pro Asn Met Val Tyr His Ser Tyr Pro Thr  
                                  165                                   170                                   175  
 Ser Arg Glu Glu Tyr Cys Ser Leu Arg Ile Asp Glu Thr Glu Asp Leu  
                                  180                                   185                                   190  
 Tyr Gly Pro Phe Leu Gln Ala Val Thr Trp Ser Gln Glu Lys Lys

205

<400> 301

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<210> 302
<211> 232
<212> PRT
<213> Chlamydia
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<400> 302

Met Thr Lys His Gly Lys Arg Ile Arg Gly Ile Gln Glu Thr Tyr Asp  
5 10 15

Leu Ala Lys Ser Tyr Ser Leu Gly Glu Ala Ile Asp Ile Leu Lys Gln  
20 25 30

Cys Pro Thr Val Arg Phe Asp Gln Thr Val Asp Val Ser Val Lys Leu  
35 40 45

Gly Ile Asp Pro Arg Lys Ser Asp Gln Gln Ile Arg Gly Ser Val Ser  
50 55 60

Leu Pro His Gly Thr Gly Lys Val Leu Arg Ile Leu Val Phe Ala Ala  
65 70 75 80

Gly Asp Lys Ala Ala Glu Ala Ile Glu Ala Gly Ala Asp Phe Val Gly  
85 90 95

Ser Asp Asp Leu Val Glu Lys Ile Lys Gly Gly Trp Val Asp Phe Asp  
100 105 110

Val Ala Val Ala Thr Pro Asp Met Met Arg Glu Val Gly Lys Leu Gly  
115 120 125

Lys Val Leu Gly Pro Arg Asn Leu Met Pro Thr Pro Lys Ala Gly Thr  
130 135 140

Val Thr Thr Asp Val Val Lys Thr Ile Ala Glu Leu Arg Lys Gly Lys  
145 150 155 160

Ile Glu Phe Lys Ala Asp Arg Ala Gly Val Cys Asn Val Gly Val Ala  
165 170 175

Lys Leu Ser Phe Asp Ser Ala Gln Ile Lys Glu Asn Val Glu Ala Leu  
180 185 190

Cys Ala Ala Leu Val Lys Ala Lys Pro Ala Thr Ala Lys Gly Gln Tyr  
195 200 205

Leu Val Asn Phe Thr Ile Ser Ser Thr Met Gly Pro Gly Val Thr Val  
210 215 220

Asp Thr Arg Glu Leu Ile Ala Leu  
225 230

<210> 303

<211> 238

<212> PRT

<213> chlamydia

<400> 303

Ile Asn Ser Lys Leu Glu Thr Lys Asn Leu Ile Tyr Leu Lys Leu Lys  
5 10 15

Ile Lys Lys Ser Phe Lys Met Gly Asn Ser Gly Phe Tyr Leu Tyr Asn  
20 25 30

Thr Gln Asn Cys Val Phe Ala Asp Asn Ile Lys Val Gly Gln Met Thr  
 35 40 45  
 Glu Pro Leu Lys Asp Gln Gln Ile Ile Leu Gly Thr Thr Ser Thr Pro  
 50 55 60  
 Val Ala Ala Lys Met Thr Ala Ser Asp Gly Ile Ser Leu Thr Val Ser  
 65 70 75 80  
 Asn Asn Pro Ser Thr Asn Ala Ser Ile Thr Ile Gly Leu Asp Ala Glu  
 85 90 95  
 Lys Ala Tyr Gln Leu Ile Leu Glu Lys Leu Gly Asp Gln Ile Leu Gly  
 100 105 110  
 Gly Ile Ala Asp Thr Ile Val Asp Ser Thr Val Gln Asp Ile Leu Asp  
 115 120 125  
 Lys Ile Thr Thr Asp Pro Ser Leu Gly Leu Leu Lys Ala Phe Asn Asn  
 130 135 140  
 Phe Pro Ile Thr Asn Lys Ile Gln Cys Asn Gly Leu Phe Thr Pro Arg  
 145 150 155 160  
 Asn Ile Glu Thr Leu Leu Gly Gly Thr Glu Ile Gly Lys Phe Thr Val  
 165 170 175  
 Thr Pro Lys Ser Ser Gly Ser Met Phe Leu Val Ser Ala Asp Ile Ile  
 180 185 190  
 Ala Ser Arg Met Glu Gly Gly Val Val Leu Ala Leu Val Arg Glu Gly  
 195 200 205  
 Asp Ser Lys Pro Tyr Ala Ile Ser Tyr Gly Tyr Ser Ser Gly Val Pro  
 210 215 220  
 Asn Leu Cys Ser Leu Arg Thr Arg Ile Ile Asn Thr Gly Leu  
 225 230 235